IAS 2025

IAS 2025 abstract book



IAS 2025, the 13th IAS Conference on HIV Science

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Abstract submission

Over 5,250 abstracts were submitted to IAS 2025, the 13th IAS Conference on HIV Science. The Organizing Committee (OC) is very grateful for all the abstract submissions received. While the OC found many very high-quality abstracts among the submissions, due to limitations in the conference programme, more abstracts were rejected than accepted – with an overall acceptance rate of 38% (which includes the late breaker abstracts). All abstracts went through a blind peer-review process completed by over 840 abstract reviewers. These reviewers are international experts in the field of HIV, including members of the OC and track committees. Each abstract was reviewed by three to four reviewers. The abstracts were reviewed for the quality and originality of the work.

Late-breaking abstract reviews included an additional assessment of the late-breaking nature of the research.

All reviewers were instructed to abstain from scoring any abstract on which they were an author or co-author, had a financial or personal conflict of interest, or did not have the appropriate expertise to evaluate. Each abstract was scored numerically against five pre-determined criteria, which were equally weighted to get a final score. The final score ranged from one (the lowest) to six (the highest). Any abstracts that received less than two reviews or where there was a scoring discrepancy between reviewers were additionally reviewed by the track committees.

Statistics for abstracts

4,899	Regular abstracts submitted
1,881	Regular abstracts accepted
110	Oral abstracts
569	Poster exhibition abstracts
1,202	E-poster abstracts
267	Late-breaking abstracts submitted
106	Late-breaking abstracts accepted
31	Late-breaking oral abstracts
51	Late-breaking poster exhibition abstracts
24	Late-breaking E-poster abstracts
91	Mpox abstracts submitted
29	Mpox accepted
4	Mpox oral abstracts
15	Mpox poster exhibition abstracts
10	Mpox E-poster abstracts
5,257	Total abstracts submitted
2,016	Total abstract accepted

IAS 2025 International Abstract Review Committee

IAS 2025, the 13th IAS Conference on HIV Science received more than 5,250 abstract submissions, which went through a blind, peer-reviewed process carried out by an international panel of reviewers who play a critical role in designing a strong scientific programme.

More than 840 specialists from around the world volunteered their time and expertise to serve as peer reviewers, helping to ensure that the abstracts presented were selected on the basis of rigorous review and were of the highest scientific quality.

We extend our special thanks to the large pool of abstract reviewers for the time they dedicated to the success of the conference.

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Oral abstract sessions

OAA01 Targeting the HIV reservoir: Emerging discoveries and novel interventions

OAA0102

HLA-E restricted HIV-1 TCR transductants efficiently reduce the size of the HIV reservoir

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Background: To effectively cure HIV-1, it's essential to maintain ongoing antiviral T cell responses to achieve long-term suppression or clearance of the virus. This study examines the ability of nonpolymorphic Human Leukocyte Antigen-E (HLA-E) restricted T cells to suppress HIV-1 replication in humanized mice, utilizing a T cell receptor (TCR)-based immunotherapy approach.
Methods: Bulk CD8+ T cells derived from humanized mouse tissues were transduced with HLA-E restricted TCRs specific for GAG epitope RMYSPTSIL (RL9) and REV epitope ILVESPAVL (IL9). TCR transductants were enriched and expanded in *vitro* prior to infusion into autologous humanized mice. To determine if the presence of the HIV-1-specific TCRs has an effect on suppressing HIV-1 virus replication, we infected humanized mice with HIV-1_{JRCSF}, separately humanized mice receiving non-HIV-1 TCR transductants were used as controls.
Results: Significant higher frequencies of TCR transductants were detected in PB and tissues in mice receiving HIV-1 TCRs compared to control mice, suggesting HIV-1 antigen specific expansion and long-term survival of HIV-1 TCR$^+$ cells *in vivo*. HIV-1 TCR$^+$ transduced cells were detected in all tissues analyzed. Importantly, during acute HIV-1 infection in the absence of antiretroviral therapy (ART), we observed significant reductions in plasma viral load (~90%, p=<0.04) and in cell associated viral RNA from tissues (>80%, p=0.0016). We then evaluated the efficacy of HLA-E restricted HIV-1 TCR transductants to reduce the size of the HIV reservoir in animal where HIV replication had been suppressed by ART. Using intact proviral DNA analysis we were able to demonstrate a 50% reduction in the levels of intact provirus in tissues (p=0.04).
Conclusions: Our findings demonstrate that HLA-E restricted HIV-1 TCR transductants are effective in reducing viral replication in vivo. Additionally, we have shown that these transductants efficiently decrease the size of the HIV reservoir. Combined, our results indicate that cell therapy-based approaches targeting the minimally polymorphic HLA-E molecules can provide a robust therapeutic effect in vivo, reducing the intact proviral DNA load in HIV-infected T cells. HLA-E based cell therapy, with its "universal" nature, holds significant potential as a novel approach to curing HIV.

OAA0103

Association between reservoir size and markers of cardiovascular inflammation in children living with HIV

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Background: There are limited data on long-term cardiovascular disease risk among children with living with perinatal HIV infection (CHIV). Our objective was to assess the association between HIV reservoir size and biomarkers of cardiovascular inflammation among Canadian CHIV.
Methods: Sub-study of the « Early Pediatric Initiation, Canada Child Cure Cohort Study » (EPIC^4, 2014-2019). In CHIV with sustained viral suppression (SVS) in whom the inducible HIV-1 reservoir in CD4$^+$ T cells was previously measured (prostratin stimulation assay), serum levels of CRP, IL-1β, IL-6, IL-18, VEGF-1, TNF-α and IFN-γ were measured using the Luminex 200™ XMAP multiplex assay at the time of reservoir measurement. Multiple linear regression was used to assess potential associations. To avoid overadjustment, factors predictive of reservoir size (age at treatment initiation, duration of SVS) were not included in the models.
Results: Out of 225 EPIC^4 participants, 121 had measures of inducible HIV-1 RNA (iRNA) at baseline. Median age was 13 years (range=6 months-23 years), age at initiation of combination antiretroviral therapy (cART) iwas 1.6 years (IQR=4 months – 4.7 years), and duration of SVS was 5.6 years (IQR=2.1–8.3). There was an equal distribution of female and male participants (50%), and 81% had serological evidence of cytomegalovirus (CMV) co-infection. Median number of copies of iRNA produced by 10^6 CD4$^+$ T cells was 5.8 (IQR=1.1-57.5). Age at cART initiation, duration of cART and proportion of life with SVS were all predictors of iRNA levels (p=0.004, p=0.02, and p=0.01, respectively). There was a significant association between levels of iRNA and serum levels of CRP (p=0.009), IL-6 (p=0.04), IL-1β (p=0.002), and IL-18 (p=0.014), though no association with IFN-γ, VEGF-1 or TNF-α were observed. These association all remained significant after adjusting for age and CMV serostatus.
Conclusions: Reservoir size as measured by iRNA was strongly associated with biomarkers of cardiovascular inflammation in CHIV. These data reinforce the need for early SVS in CHIV to mitigate long-term comorbidities, and the potential use of these biomarkers as proxy measures of long-term cardiovascular disease risk.

OAA0104

Unique cellular signatures and HIV transcripts identified in CD4 lymphoid T cells - HOPE Act organ transplantation collaboration

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Background: The inability of ART to eradicate HIV-1 infection is primarily due to the establishment of a latent reservoir that is resistant to current therapies. Lymphatic tissues, including lymph nodes (LN), are the major tissue reservoirs where latent HIV persists in tissue resident CD4 T cells. We sought to analyze LN tissue from virologically suppressed people living with HIV (PLWH) to analyze the size of the reservoir and define transcriptional changes and impact of latency reversing agents (LRAs) on the tissue resident cells. The results can inform future efforts to target and eliminate HIV harboring cells.

Methods: Through the Duke HOPE Act organ transplantation program, PLWH were consented to the collection of otherwise discarded deep lymphatic tissue. We collected LNs from 24 PLWH during abdominal or thoracic transplantation. LNs were manually disassociated and washed with media prior to Ficoll separation if cell count was over 50 million. The frequency of latently infected cells was evaluated by quantitative viral outgrowth assay in 6/24 samples. For transcriptional changes following LRA treatment, CD4+ T cells were isolated from lymph nodes in 6/24 samples and were stimulated for 24 hours with LRA combinations (VOR+AZD5582, VOR+AZD5582+IL-15 and VOR+AZD5582+IL-15+iBet-151) prior to single cell RNA sequencing (scRNAseq).

Results: Using scRNA analysis of a total 94,716 cells we identified 57 cells with HIV transcripts most of which mapped to viral LTR. The majority of the HIV-harboring cells were identified in the VOR+AZD5582-treated sample. Treatment with LRAs induces upregulation of transcripts related to activation and regulation, protein and lipid synthesis and post-translational modifications, trafficking to cell membrane. Addition of other LRAs to VOR+AZD5582 combination did not produce significant changes in transcriptome analysis.

Interestingly, LRA treatment downregulated TcR transcripts in CD4 cells affecting the ability to identify unique clonotypes of latently-infected reactivated cells.

Conclusions: Lymph nodes obtained from PLWH undergoing solid organ transplantation represent a high yield source for deep lymphatic tissue. We identified LRA-induced HIV reactivation and defined effects of LRA combinations on transcriptomic profiles of tissue resident CD4 T cells. This data can be used to evaluate future LRAs and assess their combination efficacy and their ability to unmask the lymphatic reservoir.

OAA0105

The impact of acute stress on the HIV reservoir: a prospective interventional trial and analysis in vitro of stress compounds and latency reversal

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Background: The persistence of latently infected CD4+ T cells is the major barrier to cure of people with HIV (PWH) on antiretroviral therapy (ART). While most latently infected cells are transcriptionally silent, some express low levels of cell associated (CA) HIV RNA.

In this prospective controlled interventional study, we tested the hypothesis that acute psychological stress could drive HIV transcription in PWH on ART.

Methods: PWH on suppressive ART underwent the Trier Social Stress Test (TSST) and comparisons were made to a similar period of time without an intervention (control). After 10, 30 and 65 minutes of the acute stressor, we quantified: the stress markers salivary cortisol, pre-ejection period, cardiac output and respiratory sinus arrhythmia; CA HIV RNA and HIV DNA in CD4+ T cells by qPCR; and markers of immune activation and exhaustion via flow cytometry.

The direct effect of stress-associated compounds (glucocorticoid agonists, hydrocortisone and dexamethasone; catecholamines, epinephrine and norepinephrine; the protein kinase A agonist, forskolin; the pituitary hormone, prolactin; and Triiodothyronine (T3)) on HIV transcription in the latently infected cell lines J-Lat A2 and TZM-bl was measured by GFP and luciferase expression, respectively.

Results: Physiological markers of acute psychological stress including pre-ejection period and cardiac output changed in all participants, as anticipated. Compared to the control day, at the 65-minute timepoint, the TSST did not affect HIV DNA levels (p=0.12) but led to a 1.57-fold increase in CA HIV RNA (p=0.04) which was correlated with pre-ejection period (rho=-0.59, p=0.002) and cardiac output (rho=0.6, p=0.003). CA US HIV RNA was positively correlated with CD38+HLADR- CD4+ T-cell frequencies (rho=0.52, p=0.048). HIV DNA was negatively correlated

with the proportion of CD8+ T cells expressing CD69 (rho=-0.52, p=0.05). Stress-associated compounds did not up-regulate HIV expression in latently infected cell lines.
Conclusions: In PWH on ART, HIV transcription increases shortly following acute stress. There was no direct effect of stress compounds on the HIV long terminal repeat. Changes in the half-life of activated CD4+ T-cells in circulation following stress could potentially contribute to the increase in CA HIV RNA. Our findings have implications on the importance of stress and the design of cure strategies for PWH.

OAA02 Here to stay: Renewed momentum for bNAbs in HIV treatment and cure studies

OAA0202

Altered viral rebound dynamics in chronically treated people with HIV given long-acting broadly neutralizing antibodies and N-803

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Background: Broadly neutralizing antibodies (bNAbs) are promising therapies for HIV. Clinical studies have suggested that bNAbs administered during analytical treatment interruption (ATI) or at ART initiation may affect reservoir dynamics and enhance autologous immune responses, with some participants achieving long-term control. The interleukin-15 superagonist, N-803, enhances NK and cytotoxic T cell activity. In SHIV-infected macaques two bNAbs with N-803 led to sustained virologic control. The effects of this combination in humans are not known.
We report preliminary results of the antiviral activity of the combination of two long-acting bNAbs and N-803 in people with HIV (PWH) during ATI.
Methods: This open-label, single arm study enrolled chronically-treated PWH to receive single infusions of 3BNC117-LS (30 mg/kg) and 10-1074-LS (10mg/kg) followed by up to 8 subcutaneous injections of N-803 (6 mcg/kg) 3 weeks apart. Participants were not pre-selected for bNAb sensitivity. They underwent ATI 2 days after bNAb administration.
Participants resumed ART after 4 consecutive HIV-1 RNA > 1,000 copies/ml. Study objectives included safety, viral suppression through 24 weeks and sustained virologic control. All participants reached the first primary virologic endpoint and long-term follow up is ongoing.
Results: Twenty-eight participants enrolled in the study; 3 discontinued before viral rebound (weeks 8, 10 and 10). Most reported adverse events were grade 1 or 2 injection site reactions following N-803. By week 24, 15 of 25 participants (60%; 95% CI: 40.8%–79.2%) remained off ART.
Interestingly, 4 of these 15 participants experienced long periods of low level viremia, 2 had low level viremia followed by ongoing suppression and 2 continued to maintain suppression for 72 weeks. In contrast, individuals with early rebound typically resumed ART an average of 3 weeks after the initial return of viremia.
At 24 weeks, the average concentrations of 3BNC117-LS and 10-1074-LS were 40 mcg/ml and 36 mcg/ml, respectively. Reservoir and immunologic analyses are ongoing.
Conclusions: In this ongoing study, we found that 15 of 25 chronically-treated PWH receiving a combination of bNAbs and N-803 controlled viremia for at least 6 months. Of these, 53% experienced prolonged low levels of or no viral rebound.

OAA0203

Complementary bnAbs: CD4 binding site and Interface bnAbs demonstrate bidirectional phenotypic antagonism

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Background: Broadly neutralizing antibodies (bnAbs) show promise in HIV cure and prevention, but their efficacy is limited by pre-existing or emergent resistance. Current best practice calls for combination therapy, using bnAbs from distinct classes to maximize breadth and potency. When virus populations have resistance to one or more bnAbs, however, bnAbs targeting unrelated epitopes act as monotherapy and viruses readily escape.
Akin to the bidirectional phenotypic antagonism observed with early antiretroviral therapy, we aim to identify 'complementary bnAbs' with inverse susceptibility patterns due to conformationally-linked epitopes such that evolving resistance to one would lead to enhanced susceptibility to the other.
Methods: We sequenced plasma virus *envs* by single genome sequencing from 42 participants of treatment interruption and viremia clinical trials of CD4bs bnAbs. We performed phylogenetic analyses to identify 56 *envs*, representing the consensus of rebound lineages or replicating virus populations. The 56 Envs were tested for neutralization sensitivity to a panel of 20 bnAbs (CD4bs, V2, V3, Interface, MPER) in the TZM.bl assay. Env-antibody pair IC50s were compared via Spearman correlation, with correction for multiplicity requiring a $P < 0.00026$.
Results: A total of 1,120 Env-Antibody pairs were tested for bnAb neutralization sensitivity, generating susceptibility patterns similar to published Env panels. IC50s of all 56 Envs were compared between bnAbs, identifying many

statistically significant direct correlations *(i.e.*, similar resistance patterns), but just two statistically significant inverse relationships: CD4bs bnAb N49.P9.6FR and interface bnAb 8ANC195 (Spearman R=-0.53, p=2.7e-05); and CD4bs bnAb VRC01.23 and 8ANC195 (R=-0.51, p=6.9e-05).
Modeling of CD4bs and Interface epitopes reveals substantial epitope overlap. Structure-function analysis of Envs sampled in viremic study participants pre- and post-CD4bs bnAb treatment revealed mutations within epitope overlap region (within V5) that confer increased resistance to CD4bs bnAbs and increased sensitivity to 8ANC195, without impacting MPER, V3 or V2 bnAbs.
Conclusions: Leveraging authentic HIV-1 Envs sampled from participants in bnAb clinical trials, we identified highly statistically significant inverse bnAb susceptibility patterns between interface bnAb 8ANC195 and two CD4bs bnAbs: N49.P9.6FR and VRC01.23, putatively related to epitope overlap.
Ongoing mechanistic and in vivo studies aim to determine if combination use 8ANC195 and N49/VRC01.23 will complementarily prevent emergent resistance.

OAA0204

CAR-T cell-secreted bNAbs mediate Fc-effector functions and reduce viral load in humanized mouse model of HIV infection

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Background: Combining cell and gene therapies with broadly neutralizing antibody (bNAb) administration to achieve a functional HIV cure is gathering interest. Here, we explored the concept of Hybrid CAR T-cells, combining the cytotoxic effect of a CAR with the antiviral properties of bNAbs.
The Hybrid CAR-T cells are engineered to secrete bNAbs with an Fc-IgG1 domain, which trigger secondary immune effector functions such as Antibody-Dependent Cellular Cytotoxicity (ADCC) and Phagocytosis (ADCP) on top of cell-free HIV neutralization.
Methods: We engineered a bicistronic lentiviral vector encoding a 3rd generation CD4-based CAR and the 3BNC117 bNAb. Hybrid CAR CD8+ T cells were generated from HIV-negative donors and assessed for their cytotoxic activity against autologous HIV-infected CD4+ T cells, in real-time fluorescent imaging- and flow cytometry-based assays. The quantity and HIV neutralization capacity of secreted 3BNC117 was tested by ELISA and TZM-bl assays, respectively.
Evaluation of 3BNC117-Fc-mediated functions was performed by antibody-dependent NK cell degranulation assay (ADNKDA) and by an in-house developed ADCP assay quantifying phagocytosis of HIV Env-expressing target cells by primary macrophages with real-time fluorescent imaging. In vivo efficacy of Hybrid CAR-T cells was studied in PBMC-humanized NSG-SGM3 mice infused with HIV-infected CD4+ T cells and autologous CD8+ Hybrid CAR-T cells.
Results: In vitro data demonstrated that upon coculture with autologous, HIV-infected T cells, anti-HIV Hybrid CAR-T cells suppressed HIV replication to the same extent as the CD4 CAR control, while simultaneously secreting 3BNC117 (≈40ng/ml) capable of neutralizing cell-free HIV.
The secreted antibody induced NK cell degranulation in the presence of recombinant HIV gp120 and mediated phagocytosis of Env-expressing cells by primary macrophages. In vivo, Hybrid CAR T-cell treated mice demonstrated 6.7-fold lower median plasma HIV levels as compared to non-transduced CD8-treated mice (NTD) control.
Conclusions: We successfully engineered Hybrid CAR-T cells that secrete bNAbs, exert cytotoxic killing against HIV-infected cells, neutralize cell-free HIV and mediate Fc-dependent functions in vitro. The anti-HIV activity of Hybrid CAR-T cells was confirmed in vivo. Combining CAR-T cells and bNAbs, the Hybrid CAR concept harnesses multiple arms of the immune system and therefore holds a strong potential for a functional HIV cure.

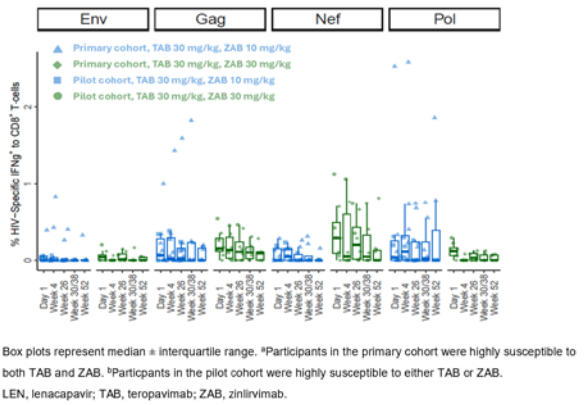
OAA0205

HIV-specific T-cell responses in suppressed people with HIV-1 receiving lenacapavir, teropavimab, and zinlirvimab

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Background: HIV-specific T-cell responses are detectable in virologically suppressed (VS) people with HIV-1 (PWH) on antiretroviral therapy (ART). Small increases in these responses were observed when the broadly neutralizing antibodies (bNAbs) 3BNC117 and 10-1074 were dosed during analytical treatment interruption or at ART initiation. In a Phase 1b study (NCT04811040), VS PWH who switched to long-acting lenacapavir (LEN; HIV-1 capsid inhibitor) plus the bNAbs teropavimab (TAB) and zinlirvimab (ZAB) maintained virologic suppression for 6 months. We report HIV-specific T-cell responses in PWH receiving LEN+TAB+ZAB in this study.
Methods: VS PWH on ART for ≥18 months, with $CD4^+$ T-cells ≥500 cells/μL and high susceptibility to TAB (n=5), ZAB (n=5), or both (n=20) (IC_{90} ≤2 μg/mL [Monogram PhenoSense mAb assay]) discontinued ART and received subcutaneous LEN 927 mg (with oral loading) plus intravenous TAB 30 mg/kg and ZAB 10 mg/kg or 30 mg/kg. Blood specimens were collected at baseline and Weeks 4, 26, 30, 38, and 52. Peripheral blood mononuclear cells were isolated and stimulated *in vitro* with overlapping 15-mer peptide pools spanning Clade B HIV-1 consensus sequences, followed by intracellular cytokine staining and flow cytometry to measure HIV-specific T-cell frequencies. Changes from baseline were assessed using Kruskal-Wallis tests.

Results: We observed no significant changes in HIV-specific IFN-γ⁺CD8⁺ or IFN-γ⁺CD4⁺ T-cells between baseline and any subsequent timepoints, with/without stratification by bNAb susceptibility or ZAB dose (*Figure*). No durable changes in HIV-specific IFN-γ⁺CD8⁺ or IFN-γ⁺CD4⁺ T-cells were observed in two participants with transient low-level plasma viremia (50–200 copies/mL) during follow-up.



Box plots represent median ± interquartile range. [a]Participants in the primary cohort were highly susceptible to both TAB and ZAB. [b]Particpants in the pilot cohort were highly susceptible to either TAB or ZAB. LEN, lenacapavir; TAB, teropavimab; ZAB, zinlirvimab.

Figure. Treatment with LEN+TAB+ZAB did not impact HIV-specific IFN-γ⁺CD8⁺ T-cells.

Conclusions: Lack of increase from baseline in HIV-specific T-cell response following LEN+TAB+ZAB treatment in VS PWH suggests virologic suppression by LEN+TAB+ZAB did not increase viral antigen expression, which may have limited expansion of HIV-specific T-cells. This has implications for HIV-1 cure studies if greater antigen exposure if required for increased HIV-specific T-cell responses after bNAb administration.

OAA03 Advances in HIV vaccine platforms

OAA0302

Protection from pathogenic SHIV by T cell-based vaccine targeting highly networked SIV epitopes

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Background: Functional CD8⁺ T cell responses targeting highly networked HIV epitopes (i.e. those derived from structurally constrained regions of the viral proteome and involved in important noncovalent interactions) have been strongly associated with HIV control. Based on this work, a highly networked HIV T cell vaccine is moving towards clinical evaluation. In this study, we evaluated whether a T cell-based vaccine targeting highly networked simian immunodeficiency virus (SIV) epitopes could confer protection in the well-established non-human primate (NHP) model following simian-human immunodeficiency virus (SHIV) challenge.

Methods: A replication-incompetent chimpanzee adenovirus serotype 68 (ChAd68) vector and LNP-mRNA vaccines encoding six highly networked epitopes from the SIV proteome (identified using structure-based network analysis) were generated. Twenty Indian rhesus macaques (2 females and 18 males) aged between 4-5 years that express Mamu *A*01* or *A*02* were selected. RMs (10 per group) received either PBS control or ChAd68 vector prime (2.5x10^10 viral particles) followed by two doses of LNP-mRNA (100ug) at weeks 0, 4, and 12. At week 16, animals were administered up to 10 weekly intrarectal challenges with low-dose SHIV BG505.N332 until infected. Vaccine-induced T cell responses were assessed by IFN-γ ELISpot, intracellular cytokine staining, and six-day CFSE-based proliferation assay following stimulation with either individuals or a pool of vaccine-incorporated SIV epitopes.

Results: Vaccination with ChAd68/LNP-mRNA vaccines encoding highly networked SIV epitopes elicited detectable SIV-specific CD8⁺ T cell responses in an appropriate Mamu-restricted manner and highly proliferative responses in a subset of animals (n=5; >5% of CFSE^{low}CD8⁺ T cells). Individual responses were enriched for those targeting Mamu A*01 CM9 (Gag) following ChAd68 prime and became additionally enriched for Mamu A*01 CL9 (Env) responses following LNP-mRNA boost. Importantly, after exposure to the pathogenic intrarectal SHIV challenge, the acquisition was delayed in vaccinated animals relative to controls, with the five animals with highly proliferative networked CD8⁺ T cell responses exhibiting significant protection from acquisition (p=0.0048).

Conclusions: A ChAd68/mRNA vaccine encoding highly networked epitopes is immunogenic in NHP and resulted in delayed acquisition from SHIV challenge. These data serve as a basis for continued investigation of highly networked CD8⁺ T cell vaccines currently advancing towards a human clinical trial evaluation.

OAA0303

HVTN 307: phase 1 clinical trial of a ferritin nanoparticle preventive HIV vaccine with different adjuvants to induce HIV-1 Env V3-glycan-specific broadly neutralizing antibody precursors

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Background: V3G CH848 Pr-NP1, a ferritin nanoparticle, was designed to expand precursors to the DH270 broadly neutralizing antibody (bnAb) lineage, targeting a GDIR/K motif at the V3 loop base and N301 and N332 glycans. V3G CH848 Pr-NP1 prime elicited potent immune responses in mice and macaques.

We tested this approach in human participants without HIV, comparing two adjuvants.

Methods: Participants in 4 groups received 3 intramuscular (IM) vaccinations with 60 or 100 mcg of V3G CH848 Pr-NP1 adjuvanted with 3M-052-AF + alum or empty LNPs on months 0, 2 and 6. Sera and PBMCs were collected to assess safety and immunogenicity.

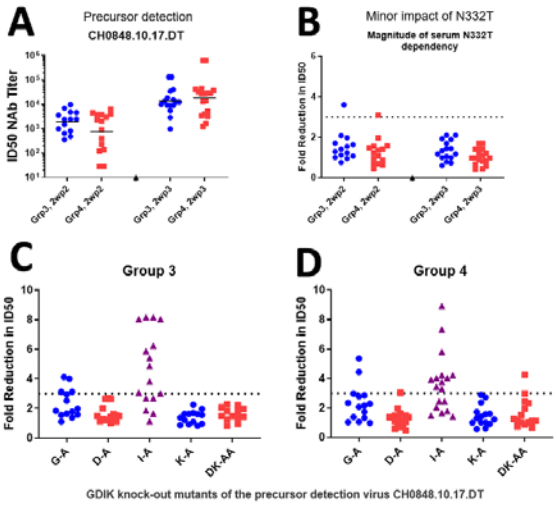
Results: Thirty-six participants ages 19-51 enrolled (16 AMAB, 20 AFAB). The frequency of local and systemic reactogenicity was similar between groups following the first 3 priming vaccinations, with more frequent grade 3 systemic reactogenicity and grade 1/2 fevers in participants receiving 3M-052-AF + alum.

After 3 doses of V3G CH848 Pr-NP1, serum IgG binding to the priming protein was similar between 60 and 100 mcg doses and slightly better with 3M-052-AF + alum adjuvant vs. LNPs. Binding to an N332A knockout protein was similar. Neutralizing antibody levels after 3 100 mcg doses were similar between adjuvants (Figure 1A). Envelope base binding antibodies to gp41 were not detected after 3 vaccinations.

Differential serum autologous virus neutralization between the precursor detection virus CH0848.10.17.DT and the knockout CH0848.10.17.DT/N332T virus showed limited dependency of N332 on the magnitude of response (Figure 1B).

However, after 3 priming immunizations, substitution of "A" for "I" in the GDIK binding motif reduced serum neutralization ID50 approximately 4-fold in both adjuvant groups (Figures 1C and 1D).

Conclusions: In healthy adults, V3G CH848 Pr-NP1 priming X3 induced high-titered serum neutralizing antibody responses to the V3-glycan precursor detection virus that depended on the bnAb epitope GDIR/K motif but less so on the N332 glycan.



Legend to Figure 1. Serum neutralization signatures of targeting at or near the V3-glycan bnAb precursor binding site. Figure A shows serum antibodies potently neutralize a tier 2 autologous precursor-detection virus (CH0848.10.17.DT) 2 weeks post 2nd (2wp2) vaccination and increase post 3rd (2wp3) vaccination. **Panel B** shows infrequent dependency on the N332 Env glycan (as determined by the differential neutralization between CH084810.17.DT and CH0848.10.17.DT/N332A viruses). **Panel C** shows **Group 3 (100 mcg priming Env/3M052+Alum as adjuvant)** and **Panel D** shows **Group 4 (100 mcg priming Env/ empty LNP as adjuvant)** serum neutralization knock-out by mutations in the GDIK motif in the bnAb binding site at the base of the V3 loop in both groups. Targeting the GDIK epitope was demonstrated by showing >3-fold reduction in neutralization ID50 by serum on viruses with the indicated GDIK mutations.

OAA0304

Enhancement of neutralization potency and breadth by a nanoparticle vaccine containing TLR7/8 agonists

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Background: Despite over 40 years of intensive research, effective HIV-1 vaccines still remain elusive. The extensive genetic diversity of HIV-1 underscores the need for vaccines capable of eliciting broadly neutralizing antibodies (bnAbs). However, this goal remains to be highly challenging. Therefore, innovative strategies to improve the neutralization breadth and potency of HIV-1 vaccines are pivotal for advancing the vaccine design.

Methods: A novel TLR7/8-activating nanoparticle (TNP) was developed using the microfluidic technology. TNP consists of poly(lactic-co-glycolic acid) (PLGA), poly(lactide-co-glycolide)-b-poly(ethylene glycol)-N-hydroxysuccinimide (PLGA-PEG-NHS), TLR7/8 agonist 1 and lipid (DLin-MC3-DMA).

We then conjugated native-like HIV-1 Env trimers on the surface of TNP to generate an Env nanovaccine (Env_TNP). Lymphocytes obtained from lymph nodes and spleens of immunized BALB/c mice were analyzed for antigen presentation and B cell proliferation by flow cytometry.
Sera from three groups of guinea pigs immunized with Env_TNP, Env with BFA03 or Env alone were assessed for the HIV-1 specific binding antibodies and neutralizing antibodies (nAbs) against a panel of 20 viruses (three tier 1s and seventeen tier 2s).
Results: TNP containing lipid (DLin-MC3-DMA) formed uniform nanoparticles with better monodispersity and were more enriched in lymph nodes than TNPs containing other lipids. The final Env_TNP formed spheres with a diameter at ~150 nm.
After immunization in mice, Env_TNP enriched more Env in the lymph nodes, enhanced dendritic cell (DC) activation, increased expression of MHC-II on DC surface and elicited strong B cell proliferation compared to Env alone or Env with BFA03.
In immunized guinea pigs, Env_TNP induced significantly higher nAb titers against three tier 1 viruses compared to Env alone (P<0.04).
Importantly, sera from guinea pigs immunized with Env_TNP neutralized an average of 5.5 tier 2 viruses, significantly more than Env with BFA03 (2 viruses, P=0.0138) and Env alone (2.3 viruses, P=0.0140).
Conclusions: The new Env_TNP nanoparticles enhances the potency and breadth of nAb responses by presenting the Env trimers as large particles and through the TLR7/8 agonist's ability in promoting antigen presentation and B cell activation.
Our study demonstrates that this new strategy has strong potentials to improve the immunogenicity of HIV vaccines and can be applied to other protein-based vaccines.

OAA0305

Luciferase-based viral inhibition assay demonstrates ChAdOx1–MVA HIVconsvX vaccine elicits functional HIV-1 specific CD8+ T cells capable of inhibiting replication of a diverse panel of HIV-1 isolates

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Background: The ChAdOx1–MVA-vectored HIVconsvX vaccine candidate targets conserved regions of the HIV-1 proteome, thereby aiming to elicit robust, protective CD8+ T-cell responses. In this first-in-human phase 1 trial (HIV-CORE 0052, NCT04586673) we evaluate the vaccine's potential efficacy by assessing the functional capacity of induced CD8+ T-cells to inhibit HIV-1 replication in autologous CD4 T cells, using a luciferase-based viral inhibition assay (VIA).
Methods: CD4+ and CD8+ T-cells were polyclonally expanded from peripheral blood mononuclear cells (PBMCs) isolated from trial participants. CD8+ T-cells from pre-vaccination day 0 (D0), day 35 (D35) and day 140 (D140) time points were co-cultured with pre-vaccination autologous CD4+ T-cells infected with a panel of eight replication-competent HIV-1 infectious molecular clones (IMC) expressing the *Renilla reniformis* luciferase (LucR) reporter gene. CD8+ T-cell-mediated inhibition was calculated as $\log_{10}$ relative light units (RLU) reduction in CD4+/CD8+ T-cell co-cultures, compared with cultures of infected CD4+ T-cells alone.
Results: HIVconsvX vaccination induced CD8+ T-cells with broad, cross-clade HIV-1 inhibition against a panel of viruses derived mostly from transmitted/founder HIV-1s isolates from different countries representing the major global clades A, B, C, and D. Peak post-vaccination CD8+ T-cell responses at day 35 inhibited a mean of 7.8 (SD 0.4) IMCs, decreasing to a mean of 6.4 (2.7) at day 140.
Conclusions: The ChAdOx1–MVA HIVconsvX vaccine candidate induces functional HIV-1 specific CD8+ T-cell responses capable of inhibiting HIV-1 replication *in vitro*. These CD8+ T-cell effectors inhibited HIV-1 IMCs originating from diverse geographical regions, types (founder/transmitter vs lab-adapted) and tropisms (CCR5 vs CXCR4).
The luciferase-based VIA provides a valuable tool for evaluating the potential efficacy of HIV-1 vaccines in inducing protective CD8+ T-cells, thereby informing on further vaccine development and testing.

OAA04 From cells to systems: The power of omics in HIV research

OAA0402

Spatial transcriptomics reveals persistent reservoirs in the rhesus macaque gut are associated with tertiary lymphoid organs and stress response activation

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Background: Despite effective antiretroviral therapy (ART), HIV-1 persistence is the major obstacle to a functional cure. Thus, understanding the tissue microenvironment of the reservoirs of persistence during ART is key.
Methods: Utilizing immunoPET/CT-identified foci of SIV gene expression utilizing the rhesus macaque model, we compared the spatial transcriptomics (10x Visium) of the local gut tissue neighborhood of the rebound eclipse-phase foci (4-6 days post-ATI) from animals initiating ART 4 days (early-seeded reservoir with short lifespan) or 10 weeks (persistent reservoir) after high-dose chal-

lenge. Adjacent sections from tissues containing foci of rebounding virus were evaluated with SIV proviral PCR, immunofluorescence, and spatial transcriptomics.

Results: SIV presence was always associated with higher transcriptional levels and up-regulation of genes related to SIV infection and innate immune responses was observed for both types of reservoirs. Notably, we also detected significant differences between the short lifespan and persistent reservoirs. The biomarkers and pathways for the persistent reservoir revealed the activation of the integrated stress response with its characteristic translational reprograming through the disruption of cap-dependent translation and cellular adaptation.

Collectively, the pathway analyses show many parallels between the foci of the rebound of the persistent reservoir 5 or 6 days after ATI and the tumor microenvironment (TME) which is the contextual basis of modern cancer research. SIV in persistent reservoirs was distinctly associated with IgA plasma cells, monocytes, and cycling gamma-delta T-cells, while in short lifespan reservoir was associated with IgG plasma cells, Th17 cells, DCs and epithelial cells suggesting that persistent reservoirs are associated with gut tertiary lymphoid organs and characterized by a status of reprogramed translation and transcriptional activation of genes associated with the integrated stress responses function to restore cellular homeostasis.

Conclusions: We propose that the integrated stress response facilitates the development of a viral microenvironment characterized by altered cell metabolism, reduced viral translation (IRES-dependent), altered extracellular matrix, and compromised immune cell function very analogous to the well-defined TME. The immune checkpoint markers that are remarkably identical between cancer and HIV infection (PD-1, PDL-1, CTLA-4, etc.) are consistent with both utilizing the altered microenvironment as a physiological sanctuary where they can persist while evading immune responses.

OAA0403

Alterations in plasma metabolomic biomarkers following HIV acquisition and association with reservoir size in people on antiretroviral therapy

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Background: Metabolic disorders are common in people living with HIV with or without antiretroviral therapy (ART) compared to population controls. Metabolic biomarkers have also been associated with immune dysfunction and HIV post-treatment control. The metabolic state of immune cells determines their susceptibility to the virus and the establishment of latency, but the mechanisms have not been fully explored in African populations with a high burden of HIV.

We performed an unbiased investigation of alterations in plasma metabolic biomarkers in a longitudinal cohort of individuals who were followed before and after HIV acquisition and explored association with clinical outcomes and HIV reservoir size.

Methods: We studied 47 participants living with HIV, of whom 18 were diagnosed in hyperacute phase (before peak viremia). Samples from before HIV acquisition, during untreated acute disease, and after 1 year on ART were analysed. The plasma metabolome was measured using liquid chromatography-mass spectrometry, and HIV reservoir size was measured using droplet digital PCR.

Results: We measured 209 metabolites, comprising amines and signalling lipids, with 46 metabolites [26 were higher (30% amines) and 20 (25% amines) lower] differing between HIV-negative and acute HIV groups, confirmed by Random Forest analysis with 87.5% accuracy. These were linked to various metabolic pathways, including alanine, aspartate, glutamine metabolism, sphingolipid and butanoate metabolism, and the TCA cycle. One year post-ART initiation, reservoirs were undetectable in 4 of 18 participants. Twelve metabolites previously linked to rebound were quantified, with glutamic acid and glycoursodeoxycholic acid correlating negatively and positively with reservoir size, respectively. Factors associated with reservoir size also included CD4/CD8 counts and CD4:CD8 ratio.

Conclusions: These findings highlight metabolome alterations during HIV, and potential metabolomic associations with reservoir size, guiding future studies. Metabolic biomarkers of HIV reservoir size will enhance the understanding of HIV pathogenesis and inform safer analytical treatment interruption strategies.

OAA0404

Elevated CCR7 ligands CCL19 and CCL21 in aorta of PLWH promote immune cell recruitment

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Background: People Living with HIV (PLWH) face a 1.5–2-fold higher risk of cardiovascular disease (CVD), partly driven by chronic immune activation despite viral suppression. CCL19 and CCL21, ligands for C-C chemokine receptor 7 (CCR7), play critical roles in immune cell migration and inflammation.
We hypothesize that increased CCL19/CCL21 expression in the aorta contributes to immune cell recruitment, vascular inflammation, and atherosclerosis in PLWH.
Methods: We used matched Formalin-fixed paraffin-embedded thoracic aorta from the National Disease Research Interchange (NDRI; PLWH, n=4 and People without HIV(PWoH, n=4). The whole transcriptional profile of the aorta with spatial resolution was performed using Visium v1. Differential expression of CCL19/CCL21 was analyzed using a negative binomial model. For single-cell resolution, spatial transcriptomics of coronary arteries from PLWH (n=2) and PWoH (n=2) were profiled using CosMX with the 1000-plex RNA panel.
Results: Aortas of PLWH had significantly upregulated CCL19 (p = 1.25e-9) and CCL21 (p = 5.20e-63) compared to PWoH *(Figure 1A).* Spatial resolution shows that CCL19 and CCL21 transcripts are expressed by cells in the media and the adventitia *(Figure 1B)*.
In a separate analysis of coronary arteries from both PLWH and PWoH, CCL19 transcripts were expressed by vascular smooth muscle cells and CCL21 by endothelial cells.

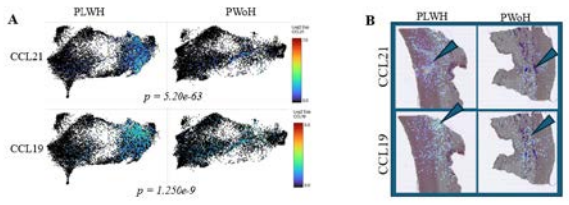


Figure 1. Spatial gene expression of CCL19/CCL21 using the Visium platform. (A) Uniform Manifold Approximation and Projection (UMAP) was used to integrate sections from PWoH (n=4) and PLWH (n=4), showing CCL19/CCL21 gene expression. (B) CCL19/CCL21 gene transcripts from Visium are shown on representative 5µm sections from PLWH and PWoH. Blue arrows highlight areas of gene expression.

Conclusions: CCL19 and CCL21 have previously been implicated in atherosclerotic cardiovascular disease. Up-regulated expression of CCL19/CCL21 in the aorta of PLWH may increase naïve CD4 and CD8 T cell recruitment and promote arterial inflammation. Additional studies are needed to investigate this potential mechanism contributing to heightened CVD risk in PLWH and the potential therapeutic value of targeting CCR7-mediated pathways to mitigate vascular inflammation.

OAA0405

The predominant effects of ART and sex on the plasma metabolomes of virally suppressed children living with perinatally acquired HIV: implications for cure studies

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Background: The influence of host factors, such as the metabolome, on HIV remission and cure interventions has garnered increasing interest. Metabolism in children living with perinatally-acquired HIV (CLWH) is less well understood than in adults.
Methods: To characterise the metabolic profiles of CLWH, plasma from pre-pubescent, virally-suppressed CLWH (n=155) and HIV-negative controls (HNCs, n=155) were analysed by Metabolon using untargeted ultra high-performance liquid chromatography/tandem accurate mass spectrometry. CLWH were on efavirenz (EFV, n=101) or lopinavir/ritonavir (LPV, n=54)-based antiretroviral therapy (ART) regimens. Three main comparisons were used to explore the major metabolic patterns in CLWH and their relation to clinical parameters.
Results: The specific ART regimen produced the most pronounced patterns in the metabolic profiles of CLWH. The two regimens (comparison 1) were distinguished predominantly by altered bile acids, bilirubin, bilirubin catabolites, and androgenic steroids. These changes likely originated from divergent antiretroviral interactions with human enzymes, transporters and the gut microbiome.
The sexes (comparison 2) in all groups were consistently distinguished by cholesterol sulphate levels, but most of the sex differences in the CLWH were distinct from those in HNCs.
Within a subset of EFV-CLWH with long-term viral suppression [comparison 3, undetectable viral load with occasional blipping, for >6 years, with no blips >1000 HIV RNA copies/ml, n=49], two metabotypes were identified and compared. Metabotype A showed significantly more impaired mitochondrial oxidative metabolism relative to Metabotype B and had significantly lower contempora-

neous (p<0.001) and longitudinal (p=0.008) CD4 T-cell percentages (CD4%). Metabotypes were not associated with age at ART initiation, pre-ART CD4% and viral load, time to suppression, longitudinal viral load, or HIV DNA Ct value (reservoir size proxy).

Conclusions: The specific ART regimen dominated the plasma metabolic profile and significantly influenced the presentation of metabolic sexual dimorphism in CLWH. Two metabotypes among CLWH on the same regimen suggested divergent, sub-clinical responses to the same treatment even among those with long-term viral control and CD4% approaching healthy levels. It is unlikely that metabolic biomarkers will be reliable in predicting or monitoring intervention outcomes across regimens. Grouping of treated individuals in metabolic studies should be done with careful consideration for the ART regimen used.

OAA05 Basic science highlights: Cutting-edge research and implications

OAA0502

Early-treated children with perinatal HIV show elevated monocyte activation into adolescence

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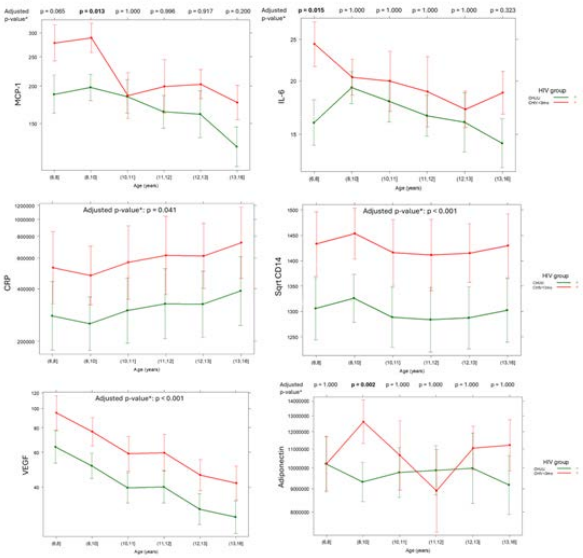
Background: Universal early ART for infants born with HIV has dramatically improved long-term outcomes in children living with perinatal HIV (CHIV). However, these children face decades of ART exposure and immune activation. Neither the long-term inflammatory profile nor risk of non-communicable diseases are yet known. We compared longitudinal biomarkers associated with inflammation, metabolic and cardiovascular damage and response markers in early ART-treated children and controls unexposed to HIV.

Methods: 185 children (67 CHIV, 118 HIV-unexposed) aged 7-16 years (87 female, 98 male) previously part of CHER early ART trial, were followed at Tygerberg Hospital, South Africa. CHIV initiated ART within 3 months of birth, and were virologically suppressed (>90%), asymptomatic, with preserved CD4+ cell count and clinically well at the time of blood tests. Unexposed children arose from the same communities and socio-economic background. Children had multiple measurements (median 2, four years apart), yielding 321 total observations. We measured 26 biomarkers in blood serum using ELISA and Luminex™ multiplex immunoassays, comprising monocyte and lymphocyte-derived biomarkers, response, metabolic and cardiovascular markers.

We used mixed effects models with child-specific random effects to investigate the association between HIV group and each biomarker, adjusting for age, sex, ethnicity, smoke exposure and batch, and considered an interaction between age and HIV group. Results are adjusted for multiple comparisons.

Results: Early treated children had significantly higher CRP, sCD14 and VEGF than unexposed. Age-specific effects were observed with significantly higher MCP-1, IL-6, and P-selectin in CHIV aged 6-8 years, significantly higher MCP-1, Adiponectin, and IL1a in ages 8-10 years, and significantly higher MCP-1 in ages 13-16 years. All other biomarkers showed no significant difference.

Figure 1: Graph of selected predicted biomarkers by age for unexposed (CHUU) and early-treated children living with HIV (CHIV). P-values are adjusted for age, sex, smoke exposure, batch, ethnicity and multiple comparisons. Error bars represent 95% confidence intervals.



Conclusions: Despite early-ART and sustained viral suppression, early treated children displayed extensive immune marker elevations, clustered around monocyte activation and markers associated with cardio-metabolic disease. These children remain at high risk of premature vascular disease in adulthood.

OAA0503

Impact of BCG vaccination on innate immune responses in HIV-exposed infants who have not acquired HIV: a randomized controlled trial in Uganda

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Background: Bacillus Calmette-Guérin (BCG) vaccination has been shown to train the innate immune system, leading to enhanced responsiveness to subsequent triggers. However, induction of training is not well understood in the growing population of HIV-1 exposed infants who have not acquired HIV (HEU) in sub-Saharan Africa. We aimed to compare the trained immune response in HEU infants who received BCG at birth with the response in HEU infants who received BCG 14 weeks of age.
Methods: A randomized controlled trial was performed among 182 HEU infants born at a health facility in Kampala, Uganda, where 91 received BCG at birth (early arm) and 91 received BCG at age 14 weeks (late arm). Whole-blood cultures stimulated with Toll-like receptor (TLR) agonists (TLR2/1, TLR4, TLR7/8) and MTB lysate antigens for 18hr were done using venous blood drawn at birth, and at weeks 6, 14, and 52. Cytokine concentrations (TNF, IL-1β, IL-6 and IL-10) were measured using Luminex immunoassay of culture supernatants. Statistical analyses were done with Student's t-test on log-transformed cytokine concentration responses.
Results: Among 182 randomized infants, 4 died and 1 was lost to follow up before 52 weeks. Randomization successfully balanced relevant baseline characteristics. All TLR agonists generally elicited stronger responses in the early BCG arm than in the late arm, at both week 6 and week 14.The IL-1β and IL-10 responses increased significantly following TLR2/1 stimulation in BCG vaccinated infants compared to infants who had not yet been vaccinated, with 1.41 [95%CI 1.00 to 1.98; p=0.048] and 1.33 [95%CI 1.02 to 1.73; p=0.031] fold increases at week 14, respectively. Significantly higher IL-6 response at week 6 and IL-10 response at week 14 after TLR7/8 stimulation in the group receiving BCG at birth compared to the group yet to receive BCG was observed. At week 52, there were no significant differences in cytokine production between the two groups.
Conclusions: This study with low attrition rate, TLR agonists induced stronger innate cytokine responses in BCG vaccinated HEU infants. Our data indicates that BCG vaccination at birth induces robust trained immunity in HEU infants until 14 weeks of age and recommended in this vulnerable population.

OAA0504

An immunoinformatics analysis pipeline (IMAP) identifies novel genetically-conserved and immunogenic peptides found in rebound HIV-1 during analytical treatment interruption

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Background: HIV-specific CD8 T-cell responses directed against genetically-conserved HIV-1 protein regions are associated with viral control. Therefore, we applied a novel **IM**munoinformatics **A**nalysis **P**ipeline (IMAP) to identify 182 peptides (IMAP-peptides) from 5 HIV-1 protein regions (Gag, Pol, Vif, Vpr, and Env), which were genetically conserved across global HIV-1 variants while avoiding known immune escape mutations. We assessed whether the selected IMAP-peptides were found within rebound virus derived from participants who experienced analytic treatment interruption (ATI). Furthermore, we characterized the corresponding CD8 T-cell response.
Methods: During the PULSE clinical trial, 68 men who have sex with men living with HIV-1 in Australia underwent three consecutive ATIs. Remarkably, seven participants transiently controlled HIV rebound during the 3rd ATI. We obtained plasma and/or blood-derived mononuclear cells from four non-controllers (NCs) who experienced rapid viral rebound during all ATIs, and five transient-controllers (TCs) who exhibited control during the 3rd ATI. We assessed whether the IMAP-peptides were present within HIV-1 RNA sequences from rebound virus across the ATIs in NCs and TCs. In addition, the effector response to these IMAP-peptides and NIH-provided control peptide pool (without IMAP-peptides) were determined by IFN-γ/TNF-α production and degranulation (CD107a/b).
Results: Near full-length HIV-1 RNA sequencing of rebound virus from 3 NCs and 2 TCs revealed the Gag, Pol, Vif, Vpr, and Env IMAP-peptides were found in 52-100% of the viral sequences obtained from these five participants across three ATI time points. Moreover, the CD8 T-cells from 3 TCs had a 15-53-fold higher effector response to the IMAP-peptides compared to the CD8 T-cells from 2 NCs. Notably, in NCs, the relative response to the IMAP-peptides was 20-fold lower compared to the control peptides, whereas in TCs, the IMAP-peptide response was similar to the control response (1-1.58-fold change).
Conclusions: The novel IMAP-peptides were found within the HIV-1 RNA sequences during viral rebound in transient-controllers and non-controllers, indicating these peptides are expressed during HIV-1 infection. The higher potential of CD8 T-cells from transient-controllers to recognize and respond to mutational-constrained HIV epitopes, may contribute to their virological control. These results highlight the potential of IMAP for identifying novel immunogens for therapeutic strategies to enhance CD8 T-cell response.

OAA0505

Plasma extracellular vesicles and their association with hepatocellular carcinoma in individuals living with HIV and hepatitis C virus: potential biomarkers

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Background: Plasma extracellular vesicles (pEV) play a crucial role in immune modulation. Natural killer (NK) cells are essential for immune surveillance, particularly in targeting tumor cells. Advanced liver fibrosis (LF) increases hepatocellular carcinoma (HCC) risk, even after successful HCV clearance with direct-acting antivirals (DAA). We previously showed that NK cells exhibit an exhausted phenotype and reduced function in individuals with advanced LF post-DAA.
This study aimed to assess the impact of pEV from individuals with HIV/HCV:
a. with advanced LF, and;
b. those with advanced LF who later developed HCC.
Methods: Plasma samples were collected from individuals with advanced liver disease (METAVIR F4, n=11) achieving sustained virologic response (SVR) post-DAA. Samples were taken at baseline (pre-DAA) and post-SVR intervals; 5 developed HCC with a median of 5.75 years (IQR 4-8) post-clearance. Plasma from 6 healthy controls was also included.
pEV were isolated via size exclusion chromatography from plasma (2mL), resuspended in PBS (60µL), and incubated with healthy PBMC for 1 hour. NK cell degranulation was assessed by FACS analysis of CD107a, CD3, CD56, and a viability marker after coculture with K562 cells (10:1 ratio) for 2 hours.
Results: pEV from all participants, including controls, reduced NK CD107a expression compared to NK cells without pEV. pEV from individuals with advanced LF at baseline were more suppressive than controls (0.71[0.60-0.85] vs 0.88[0.78-0.97]; p=0.023). After ≥1 year post-DAA, pEV from those who developed HCC remained more suppressive than those who did not (0.75[0.71-0.78] vs 0.86[0.84-0.90]; p=0.008). In non-HCC individuals, NK suppression decreased over time (p=0.052), unlike in those who developed HCC. At ≥1 year, suppression by pEV in non-HCC individuals was similar to controls (p=0.79), whereas pEV from future HCC cases remained more suppressive (p=0.03).
Conclusions: pEV from individuals with advanced LF contribute to the exhausted NK cell phenotype, and could be associated with the increased risk of HCC among those individuals. Notably, pEV from those who developed HCC sustained long-term suppression of NK functionality, unlike pEV from non-HCC individuals, which resembled healthy controls ≥1 year post-treatment. These findings suggest that persistent NK suppression by pEV after HCV clearance could serve as a biomarker for HCC risk.

OAB01 ART strategies

OAB0102

A double-blind, active-controlled, phase 2b study to evaluate the efficacy and safety of ulonivirine in combination with islatravir in virologically suppressed adults living with HIV-1

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Background: Ulonivirine (ULO, MK-8507) is a non-nucleoside reverse transcriptase inhibitor (NNRTI) suitable for once-weekly (QW) oral dosing, being developed with islatravir (ISL) for the treatment of HIV-1. This double-blind, phase 2b trial evaluated the efficacy and safety of ISL+ULO QW in virologically suppressed adults living with HIV-1 (MK-8591-013; NCT04564547).
Methods: Participants without known NNRTI resistance who were virologically suppressed for ≥6 months on bictegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF), were randomized (1:1:1:1) to receive ISL 20 mg plus ULO (100, 200, or 400 mg) QW, or remain on BIC/FTC/TAF once-daily. Due to decreases in total lymphocyte counts (TLC) and CD4+ counts observed across ISL programs, the trial was stopped early and participants were transitioned to non-study antiretroviral therapy with continued monitoring until recovery. Efficacy assessments included the proportion of participants maintaining virological suppression and measurement of CD4+ counts; safety assessments included adverse event (AE). ISL+ULO data were pooled across doses.
Results: 161 participants were randomized (121 ISL+ULO, 40 BIC/FTC/TAF); 80.7% were male and 64.6% were White, with a mean age of 45 years and baseline CD4+ of 748 cells/mm^3. When dosing of ISL+ULO was discontinued, 113 participants had reached Week 24. Virologic suppression (HIV-1 RNA <50 copies/mL) was maintained in all participants who had available data across groups at Week 24. Participants receiving ISL+ULO reported similar rates of AEs (76.9% vs 67.5%), drug-related AEs (17.4% vs 10.0%), and AEs leading to study discontinuation (2.5% vs 0.0%), as participants receiving BIC/FTC/TAF. There was no increase in the incidence of infection among participants receiving ISL+ULO (ISL+ULO: 36.4% vs BIC/FTC/TAF: 32.5%). Mean percentage change from baseline in TLC and CD4+

counts showed decreases for participants receiving ISL+ULO (−26.6% and −23.9%) versus BIC/FTC/TAF (-2.5% and -0.8%) at Week 24. Recovery in TLC and CD4+ counts towards baseline was observed in all ISL+ULO groups at Week 24 post-treatment.

Conclusions: ISL+ULO showed efficacy in maintaining viral suppression through Week 24. Consistent with previous studies of ISL, decreases in TLC and CD4+ counts were observed with ISL 20 mg + ULO QW followed by a trend to recovery after discontinuation. Development of ISL 2 mg + ULO QW is ongoing.

OAB0103

First experience of dual antiretroviral maintenance regimen in West and Central Africa compared with continuing 3-drug current antiretroviral regimens (CARs): week 96 results from the MODERATO trial (ANRS -MIE 12372)

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Background: Switching to DTG/3TC or boosted protease inhibitor/3TC had demonstrated long-term non-inferior efficacy vs continuing tenofovir (TDF) 3 drugs based regimens and are recommended in guidelines from northern countries, but not in WHO recommendations.

The MODERATO trial in West and Central Africa aims to demonstrate the non-inferiority at 96 weeks of two arms of maintenance dual therapy DTG/3TC or ATV/r/3TC compared to CARs with TDF/3TC/efavirenz (EFV) (TLE) or TDF/3TC/DTG (TLD) in person living with HIV with virological success.

Methods: From November 2020 to February 2023, in three countries, we randomized HIV-1 infected adults on CARs with TLE or TLD for at least 2 years, without a history of virological failure, AgHbs- and CD4 cell count > 200/m. The primary endpoint was the proportion of randomized participants demonstrating non-inferiority of a switching to dual-drug maintenance therapy vs continuation of the 3 drugs CARs in terms of virological success at week 96, with no change in strategy. Virological success was estimated using the FDA Snapshot approach, with a 10% non-inferiority margin.

Results: Overall 480 adults (79% women; 52 % aged ≥50 years, median duration on ARV regimen 9 years, mean CD4 count 768/mm3) were randomized. The ITT population included 480 participants (160 on DTG/3TC, 160 on ATV/r/3TC and CARs (TLE n=149 and TLD n=11). At week 96, in the ITT population, the treatment success rate was 95.0 % (304/320) in the dual-drug group and 96.9 % (155/160) in the CARs group (adjusted difference -1.9%, 95% CI -5.5% to 1.7%). 10 (3.1%) and 5 (3.1%) participants experienced virological failure, respectively. Comparisons by each dual-drug vs CARs also show non-inferiority.

One patient died in dual-drug group. Grade 3/4 adverse events were reported in 39 (12.2%) and 15 (9.4%) participants, respectively (p=0.36). There was no difference in mean change CD4 value at S96 (+70 vs +65, p=0.84).

Conclusions: Switching to dual maintenance therapy was non-inferior to continuing CARs with 3 drugs regimen including TDF for maintaining virologic suppression on long term week 96 analysis and good safety profile. This first experience in West and Central Africa supports dual maintenance therapy as an option in Sub Saharan African countries.

OAB0104

Real-world effectiveness of CAB+RPV LA in individuals with HIV viremia at therapy initiation

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Background: Cabotegravir + rilpivirine long-acting injectable therapy (CAB+RPV LA) is indicated for people with HIV (PWH) who are virologically suppressed (HIV-1 RNA viral load [VL] <50 copies/mL) on a stable antiretroviral regimen. However, in the OPERA cohort, viremic (VL ≥50 copies/mL) PWH have been observed initiating CAB+RPV LA. We describe these individuals and their outcomes in this real-world setting.

Methods: Treatment-experienced adults with viremia switching to CAB+RPV LA from 21JAN2021-31DEC2023 were followed through 29FEB2024. Complete initiation was de-

fined as receiving 2 injections ≤67 days apart. Discontinuation was 2 consecutive missed injections (monthly: >67 days without injection; every 2-months: >127 days without injection). Non-response (failure to suppress to <50 copies/mL) and confirmed virologic failure (CVF; suppression to <50 copies/mL followed by 2 VL ≥200 copies/mL or 1 VL ≥200 copies/mL + discontinuation) were assessed among those with ≥1 follow-up VL.

Results: Of 3,304 PWH initiating CAB+RPV LA, 368 (11%) initiated with viremia (median VL: 120 copies/mL [IQR: 61, 2535]). Median age was 41 (IQR: 32, 51), 30% were female, 57% were Black, 18% were Hispanic, and 63% received care in the Southern US. Median years since HIV diagnosis was 9 (IQR: 3, 17), 29% had a BMI ≥30 kg/m^2, median CD4 cell count was 578 cells/μL (IQR: 353, 808), 80% had ≥1 comorbidity, and 69% were on an INSTI and 13% on 2 core agents prior to CAB+RPV LA. Among 331 (90%) PWH who completed initiation, 258 individuals (78%) were on CAB+RPV LA with median follow-up of 12 months (IQR: 8, 19) at the time of analysis, mostly (93%) dosed every 2-months. Of 313 PWH with ≥1 follow-up VL, 277 (88%) suppressed to VL <50 copies/mL during follow-up while 36 (12%) had non-response during follow-up. Fewer than 2% experienced CVF.

Conclusions: In the OPERA real-world cohort, individuals with VL ≥50 copies/mL at CAB+RPV LA initiation had long-standing HIV, a high prevalence of comorbidities, and were failing an INSTI or multiple core agents. Most successfully initiated CAB+RPV LA and were able to suppress their VL to <50 copies/mL. A majority remained on CAB+RPV LA at study end with few failures.

OAB02 A multitude of complications

OAB0202

Is long-acting injectable antiretroviral therapy safe in countries with high hepatitis B prevalence?: insights from the IMPALA study

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Background: Hepatitis B is a significant health concern among people living with HIV. The WHO recommended first-line HIV regimen (tenofovir disoproxil, lamivudine, dolutegravir, TLD) both prevents and treats hepatitis B disease. Novel long-acting (LA) injectable antiretrovirals including cabotegravir (CAB) and rilpivirine (RPV), are not active against hepatitis B, raising concerns about reactivation in individuals with prior hepatitis B exposure. In addition, CAB+RPV LA HIV treatment is not recommended in individuals with active hepatitis B (HepBsAg+).

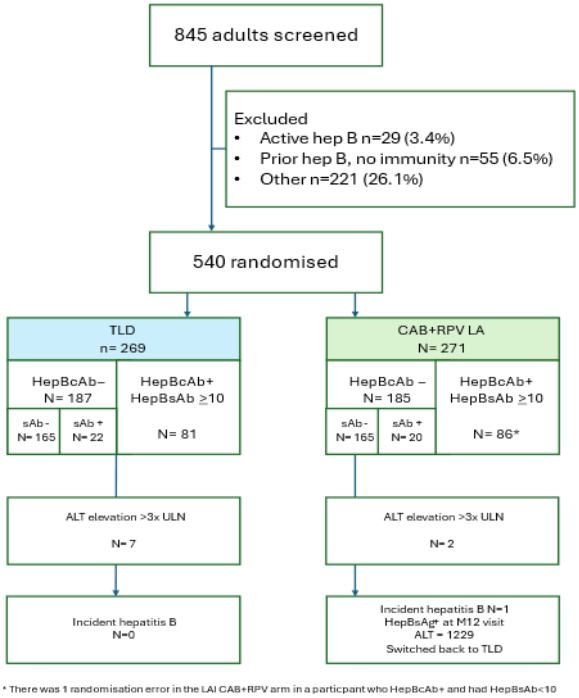
Methods: IMPALA (NCT05546242) is a phase 3b clinical trial in Uganda, Kenya and South Africa investigating efficacy of CAB+RPV LA in virally suppressed adults. Participants with active hepatitis B (HepBsAg+) or prior infection without immunity (HepBcAb+ with HepBsAb <10 IU) were excluded.

Eligible participants were randomized 1:1 to continue TLD or switch to CAB+RPV LA given 2-monthly. Regular assessments were conducted to monitor liver enzyme elevations and hepatitis infection/reactivation, with comparisons made between arms.

Results: Between Dec/2022 -Mar/2024, 845 volunteers were screened, of whom 222 (26.3%) had evidence of prior infection (HepBcAb+). Hepatitis B-related reasons precluded 84 (9.9%) from randomization [29 (3.4%), active hepatitis B; 55 (6.5%), prior infection but no immunity].

Among 540 randomized participants, 42 (7.8%) had evidence of vaccine-mediated immunity. ALT elevations were observed in 7 (2.6%) participants in the TLD arm versus 2 (0.7%) in the LAI arm.

One incident hepatitis B infection occurred in a participant in the LA arm without vaccine-mediated immunity. No reactivation of hepatitis B was detected during the study.



* There was 1 randomisation error in the LAI CAB+RPV arm in a particpant who HepBcAb+ and had HepBsAb<10

Conclusions: The high number of hepatitis B-related screen-outs highlights challenges for LA therapy in hepatitis B endemic countries. While hepatitis B reactivation did not occur in individuals with immunity (HepBsAb ≥10 IU), the risk of *de novo* infection remains in those receiving CAB+RPV LA without immunity. This demonstrates the need for strengthened vaccination efforts, particularly among those switching to CAB+RPV LA.

OAB0203

Topical trichloroacetic acid versus electrocautery for the treatment of anal intraepithelial neoplasia in patients living with HIV: a multicentre randomized non-inferiority trial (TECAIN-study)

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Background: People living with HIV (PLWH) have a strongly increased risk for Human papillomavirus (HPV)-associated anal cancer compared to the general population. Therefore, screening for and treatment of anal intraepithelial neoplasia (AIN) for the prevention of anal cancer are recommended for PLWH. Currently, there is no gold standard for the treatment of AIN and the available options have rarely been evaluated in prospective randomized trials

Methods: The TECAIN-study was a prospective, multicentre, randomised, non-inferiority trial investigating the efficacy and safety of TCA vs. ECA for the treatment of AIN. PLWH with histologically confirmed AIN were recruited from seven anal dysplasia units in Germany between 2015 and 2020.

The primary endpoint (PE) was therapeutic success defined as a combination of complete clinical response evaluated by high-resolution anoscopy and histological resolution/regression of AIN four weeks after the end of treatment (4-weeks-follow-up, 4WFU).

Secondary endpoints comprised therapeutic success 24 weeks after the end of treatment (24WFU), adverse events (AE), and HPV-parameters (prevalence, multiplicity, DNA-load, oncogene-mRNA-expression) at 4WFU and 24WFU.

Results: 257 PLWH with AIN were enrolled and randomly assigned to TCA (n=129) or ECA (n=128). 118 patients were treated with TCA, 115 with ECA (intention-to-treat population). The PE was reached in 52.5% of the TCA-group and in 61.7% of the ECA-group. Histological resolution/regression was documented in 66.9% (TCA-group) and 67.0% (ECA-group) at 4WFU. While non-inferiority of TCA could not be shown at 4WFU, TCA was non-inferior to ECA at 24WFU (50.8% vs. 48.7% therapeutic success). Treatment-related AEs were reported in 64.4% of the TCA- and in 65.2% of the ECA- group until 4WFU, without any persistent conditions. HPV-parameters did not differ significantly between treatment groups and within the groups between baseline and 4WFU or 24WFU.

Conclusions: TCA is a well-tolerated, inexpensive and simple to use treatment option for AIN in PLWH.

OAB0204

Predictors of weight gain among people with HIV (PWH) over 3-year period

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Background: Trio previously reported no difference in 3-year mean weight change in virally suppressed [VS] PWH vs non-PWH after propensity score matching. This study assessed the effects of ART on weight gain among PWH.

Methods: Retrospective study using Trio Health HIV EMR data (US). Eligibility: ≥18 years, in care Jan 2015-Aug 2023, treatment-experienced VS (viral load <200 copies/ml) at baseline or on 1st ART for ≥6 months ≥12 months since

start, VS at 3 years; with baseline and 3-year weights. Baseline characteristics were compared (X-square, t-test) for PWH with gain <5% vs. gain ≥10% and either shift to higher body mass index [BMI] or baseline obese [10% gain + BMI shift]. Classification regression trees [CRT] and logistic regression [LR] identified predictors of 10% gain + BMI shift including ART and baseline demographic and clinical characteristics.

Results: Of 10413 PWH, 41% lost/did not gain weight, 26% gained <5%, 12% had ≥ 10% gain + BMI shift. Compared to PWH with gain <5%, those with 10% gain + BMI shift were younger (median age 44 vs. 51 years), more likely female (28% vs. 16%), Black (49% vs. 37%), with normal BMI (39% vs. 30%), substance use (12% vs. 7%) and less likely with cardiovascular disease (23% vs. 28%), and hyperlipidemia (8% vs. 15%); 88% received INSTI. In CRT, younger PWH, female, Black, with lower baseline BMI and CD4 were predictors of 10% gain + BMI shift. In LR, Black, female, age 18-29, normal baseline BMI and CD4 <200 cells/mm^3, no TAF/TDF exposure 12 months pre-baseline were associated with 10% gain + BMI shift (Figure).

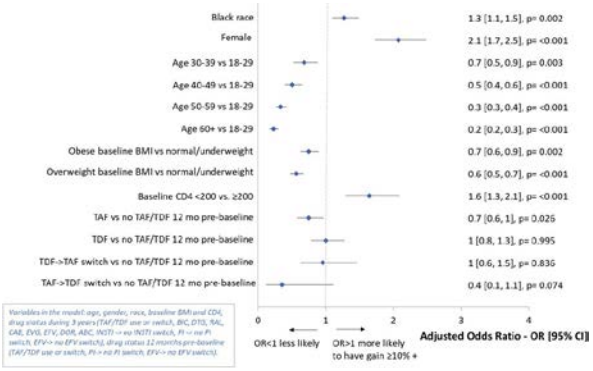


Figure. Predictors of gain ≥10% with shift to higher BMI.

Conclusions: This is the largest study evaluating weight change over 3-year period among VS PWH. Among gainers, we observed limited impact of ART on ≥10% weight gain and socio-demographic and clinical predictors were similar to non-PWH findings from the prior study.

OAB0205

Prevalence and correlates of sleep apnea using WatchPAT™: Chicago Women's Interagency HIV Study (WIHS)

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Background: Obstructive sleep apnea (OSA) is often undiagnosed due to cumbersome lab-based diagnostics. Midlife women with/without HIV (WWH/WWoH) have OSA risks, making home sleep apnea testing (HSAT) desirable.

Methods: Chicago WIHS women had sleep apnea assessed (2019-2024) using an overnight multi-sensor, wrist-worn HSAT device with finger-probe peripheral arterial tonometry (WatchPAT™). Validated automated algorithms determined apnea-hypopnea index (AHI) using ≥ 3% oxygen desaturation threshold and categorized OSA severity based on number of hourly apnea-hypopnea events: none (<5), mild (5-14), moderate (15-30), severe (>30). Bivariate and multivariable logistic regression models controlling for age, income, education, employment, menopausal and HIV status determined factors associated with odds of moderate/severe vs. none/mild OSA.

Results: 169 (63% WWH) without previously diagnosed OSA had valid AHI (26 were invalid due to technical issues or <3 hours sleep); 83.4% were African American with median(IQR) age in years 54.6 (47.6, 60.2); 73.2% postmenopausal; 67.5% ≤$18,000 household income; 64% unemployed; 64.5% completed ≤ high school.

Current substances use included: 18.5% crack/cocaine/heroin, 25% cannabis, and 46.7% smoke tobacco. Chronic conditions included: 58.9% obesity, 25.6% diabetes, and 72.8% hypertension; 52.4% reported poor sleep quality (Pittsburgh Sleep Quality Index >5); 28.7% used sleep medications (prescribed/non-prescribed). Mean/standard deviation (m/sd) body mass index (BMI) and waist circumference (WC) were 32.9(8.6) and 103.4(18.1) respectively.

Overall, 151 (89.4%) had any degree of OSA; 24.9% severe, 34.3% moderate, 30.2% mild. Only 10.6% had no sleep apnea per guidelines. There were no significant differences by HIV status. In bivariate analyses (none/mild vs. moderate/severe), lower income ≤$18,000 (58.8% vs 73.5%, p=.048), higher m(sd)BMI [29.7(6.9) vs. 35.1(9.0), p<.0001], larger m(sd)WC [96.8(14.8) vs. 107.8(18.9), p<.0001], and being obese (43.5% vs. 69.7%, p=.0008) were associated with OSA severity.

In adjusted logistic regression models, only higher mBMI [aOR 1.11 (1.05-1.16; p<.0001)] and larger mWC [aOR 1.04 (1.02-1.06; p=.0002)] were associated with increased odds of moderate/severe OSA. Substance use and other chronic conditions were not significantly associated with OSA severity.

Conclusions: Undiagnosed sleep apnea was highly prevalent, nearly 90% among midlife WWH/WWoH, with 59% classified as moderate/severe OSA. HSAT screening is warranted to identify women likely to benefit from further evaluation and treatment by a sleep specialist.

OAB03 Special issues in paediatrics

OAB0302

Predictors of treatment failure in children living with HIV starting first-line antiretroviral therapy in the ODYSSEY trial

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Background: There are few data on predictors of treatment failure in children starting antiretroviral therapy-(ART) on dolutegravir-based regimens(DTG).

Methods: The ODYSSEY randomised trial demonstrated superior efficacy for DTG versus standard-of-care (SOC). The prognostic value of baseline characteristics across 4 domains (anthropometrics, HIV indicators, haematology, demographics) for treatment failure by 96 weeks in children starting first-line ART was investigated using Cox models, adjusting for trial arm and weight; fractional polynomials were considered for continuous covariates.

Results: 381 children started first-line ART (82% Africa, 13% Thailand, 5% Europe), 309 weighing ≥14kg (154 DTG, 155 SOC (92% efavirenz-based)) and 72<14kg (35 DTG, 37 SOC (78% boosted lopinavir-based)). At baseline, median age was 10.5 years (IQR:6.5-14.0), CD4% 20% (IQR:12-28), BMI-for-age z-score -0.58 (IQR:-1.48-+0.25;15%<-2) and 73 (19%) children had ongoing WHO-stage 3/4 events. 75 children experienced treatment failure by 96 weeks (24 DTG, 51 SOC). DTG-based ART protected against risk of treatment failure, and risk declined as weight increased, particularly in children<14kg. Within domain-specific models, after adjustment for weight and trial arm, low BMI-for-age, low CD4%, an ongoing WHO-stage 3/4 event, high neutrophils, and being at an African site independently predicted treatment failure (p<0.2). Age and middle-upper arm circumference were collinear with weight, and CD4/CD8 ratio with CD4%. Log viral load, haemoglobin, platelets, sex and caregiver were dropped due to lack of prediction (p≥0.2).

In a full multivariable model, DTG-based ART, weight, CD4%, ongoing WHO-stage 3/4 event and region were retained (p<0.1); neutrophils were not retained after adjustment for ongoing WHO-stage 3/4 event, and BMI-for-age was not retained after adjustment for CD4% and region. There was no evidence that predictors differed between trial arms (interactions p>0.1).

Baseline predictors of treatment failure in children starting ART	Univariable Model (adjusting for weight and trial arm)			Multivariable Model		
	HR	95% CI	p-value*	HR	95% CI	p-value*
DTG (vs SOC)	0.44	(0.27-0.72)	0.001	0.45	(0.27-0.72)	0.001
Weight	**	**	<0.001	**	**	<0.001
BMI-for-age z-score (per 1 unit increase)	0.77	(0.66-0.91)	0.002	-	-	-
CD4 percentage (per 1 percent increase)	0.97	(0.95-0.99)	0.002	0.97	(0.95-0.99)	0.007
Ongoing WHO-stage 3/4 event	1.94	(1.19-3.17)	0.01	1.57	(0.94-2.62)	0.09
Neutrophil count (per 1 cell/mm^3 increase)	1.17	(1.05-1.31)	0.01	-	-	-
Region (African vs non-African site)	2.07	(0.81-5.25)	0.09	2.09	(0.82-5.31)	0.09

*All p-values are based on likelihood ratio tests.
**Weight was transformed using the reciprocal (1/weight) based on the best-fitting fractional polynomial. In the multivariable model, the HR for risk of outcome in a child weighing 14kg vs 4kg was 0.83 (95% CI 0.71-0.97), and in a child weighing 24kg vs 14kg was 0.97 (0.95-0.99).

Conclusions: Children living with HIV starting ART would benefit from screening for ongoing WHO-stage 3/4 events and CD4 testing to identify those at high risk of treatment failure, with low-weight/younger children particularly vulnerable.

OAB0303

Prevalence of suicidal behaviour and its associated factors among young people living with HIV accessing care at a primary healthcare centre in Zambia

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Background: Adolescents and young people living with HIV (AYPLHIV) are more likely to exhibit suicidal behaviour than their HIV-uninfected peers. Up to half of AYPLHIV in Sub-Saharan Africa struggle with mental health disorders (MHDs) associated with suicidal behaviour and most remain undiagnosed. While piloting integrated MHD screening using a locally co-developed digital application in routine HIV care, we determined the prevalence of suicidal behaviour and its associated factors among AYPLHIV.

Methods: We conducted a cross-sectional study among AYPLHIV aged 15 to 24 years at a primary healthcare centre (PHC) in Lusaka, completely enumerating AYPLHIV in the hospital antiretroviral therapy (ART) register from September 2023 to May 2024. We measured suicidal behaviour using the Ask Suicide Questionnaire Toolkit administered by a research assistant at the PHC.

Descriptive statistics, including frequencies and proportions, were used to determine prevalence, while logistic regression models identified factors associated with suicidal behaviour.

Results: We reached 432/583 (74.1%) AYPLHIV in the ART register, 416/432 (96.3%) consented, with 268/416 (64.4%) females and a median age of 20 (IQR: 18 to 23). The prevalence of suicidal behaviour was 127/416 (30.5%; [95% CI: 26.1% to 35.2%]) overall, higher among females (34.3%) than among males (23.6%).

Being female (AOR 1.69; 95% CI 1.18, 3.32; P=0.009), feeling stigmatised because of HIV (AOR 1.54; 95% CI 0.89, 2.65; P=0.120), having stigmatising attitudes towards people living with HIV (AOR 1.75; CI 95% 1.08, 2.83; P=0.022), having a positive PHQ 9 depression screen (AOR 3.02; CI 95% 1.63, 5.60; P<0.001) and positive GAD 7 anxiety screen (AOR 2.61; CI 95% 1.60, 4.27; P<0.001) increased the odds of exhibiting suicidal behaviour.

Conversely, compared to living alone, living with parents (AOR 0.33, CI 95% 0.13, 0.83, P=0.018), a partner (AOR 0.32; CI 95% 0.11, 0.98; P=0.046), or any other relative (AOR 0.29; CI 95% 0.11, 0.78; P=0.014) was protective against suicidal behaviour.

Conclusions: Suicidal behaviour is prevalent among AYPLHIV in Lusaka, strongly influenced by stigma, common MHDs, and sociodemographic factors. It is feasible to integrate MHD and suicidal behaviour screening into routine HIV care among AYPLHIV. Comprehensive suicide prevention interventions addressing the drivers of suicidal behaviour among AYPLHIV should be explored.

OAB0304

Electronic monitoring device adherence intervention improves viral suppression in young people living with HIV at risk of virological failure

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Background: Adherence to antiretroviral therapy (ART) among young people living with HIV (YPLWH) is lower than in other age-groups. We conducted an individually randomised controlled trial to investigate the impact of an electronic monitoring device (EMD) paired with text message reminders and monthly adherence feedback on HIV viral suppression among YPLWH with suboptimal adherence in Harare, Zimbabwe

Methods: YPLWH aged 16-30 years taking ART with viral load (VL)>200copies/ml were recruited from five HIV clinics and randomised 1:1 to intervention or standard of care (existing enhanced adherence counselling). The EMD (Wisepill) was used for six months. and was configured to send SMS reminders if not opened within 30-minutes of scheduled ART intake time. Monthly individualised in-person feedback sessions were conducted using EMD data.

The primary outcome was proportion of participants with VL<50 copies/ml at six months. A mixed methods process evaluation was conducted concurrently to understand fidelity, feasibility and acceptability of the intervention.

Results: 205 YPLWH (101 randomised to intervention, mean age 22.6 (SD 3.8) years; 52% female) were enrolled between September 2023 and April 2024 with no significant differences in participant baseline characteristics between the two arms. Median VL at baseline was 12700 copies/ml (IQR 1020, 105686); 143 (69.8%) were on a dolutegravir regimen and 62 (30.2%) on an atazanavir regimen. Eighty-seven (42.4%) had interrupted ART for ≥2 days in the three-months preceding enrolment, the longest interruption being >4 weeks (n=17).

Overall, 194 participants had a six-month VL, (10 withdrew, 1 died) with a median VL of 104 copies/ml (IQR 19, 21762); 85/194 (43.8%) were virally suppressed. At six-months, 51.0% (n=49/96) in the intervention vs 36.7% (n=36/98) in the standard of care arm had a VL <50 copies/ml (OR 1. 80, 95%CI:1.01,3.19, p=0.045). Adjusting for baseline VL and site, corresponding OR was 1.76 (95%CI:0.97-3.19, p=0.061).

Qualitative findings showed that EMD-supported adherence monitoring enabled YPLWH to have open and supportive conversations about adherence, which were otherwise difficult.
Conclusions: This EMD-supported adherence intervention was feasible and acceptable and improved viral suppression among YPLWH at risk of virological failure in an age group where adherence has been a persistent challenge.

OAB0305

Pharmacokinetic modeling to support WHO-weight band dosing of the new pediatric Darunavir/ritonavir (120/20 mg) fixed-dose combination tablet for children

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Background: Darunavir-boosted with ritonavir (DRV/r) is an HIV protease inhibitor used in children ≥3 years old but no child-friendly fixed-dose combination (FDC) is available. Following prioritization by the WHO-PADO group, a 120/20 mg DRV/r FDC tablet was developed (Laurus Labs), in collaboration with Penta and CHAI under the framework of the Global Accelerator for Paediatric Formulations (GAP-f). We performed a pharmacokinetic (PK) modeling/simulation study to support DRV/r dosing using this FDC once-(OD) and twice-(BID) daily per WHO-weight bands for children ≥3 years old weighing 10 to <35 kg.
Methods: Darunavir plasma concentration data from 3 clinical trials in children living with HIV (DELPHI, ARIEL and CHAPAS-4 studies) were combined to develop a population PK model. Simulations were performed in a virtual population of children receiving DRV/r OD and BID dosing regimens to determine the dose that would achieve geometric mean (GM) DRV exposure ($AUC_{0\text{-}tau}$) in each WHO-weight band within 80%-130% of the value reported in adults.
Results: DRV/r concentration data from 162 children aged 3-16 years old were included. DRV PK was described using a 2-compartment model with first-order absorption (lag-time for DRV tablets vs. suspension) and linear elimination. Clearance and volume of distribution parameters were allometrically scaled to body weight, and alpha1-glycoprotein concentrations inversely influenced DRV clearance. Simulations predicted the following DRV/r doses achieved target exposures: DRV/r OD: 480/80 mg (4 tablets) from 10 to <14 kg and 600/100 mg (6 tablets) from 14 to <35 kg. DRV/r BID: 240/40 mg (2 tablets) from 10 kg to <14 kg; 360/60 mg (3 tablets) from 14 kg to <25 kg; and 480/80 mg (4 tablets) from 25kg to <35 kg (Figure 1).

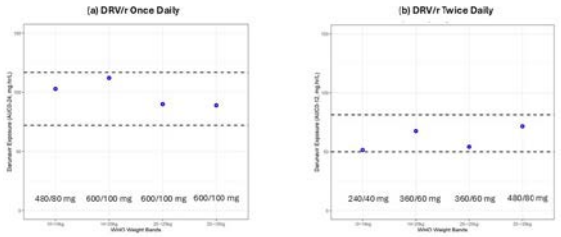


Figure 1: Predicted GM DRV $AUC_{0\text{-}tau}$ in children 10 to <35 kg receiving DRV/r FDC (120/10 mg) per WHO weight bands (a) once daily and (b) twice daily. Dotted lines represent target 80-130% range of the GM reported in adults

Conclusions: The model-based dosing of the new pediatric DRV/r FDC tablets supports once- and twice-daily dosing according to WHO weight bands in children aged ≥3 years and weighing 10 to <35 kg.

OAB04 HIV treatment and prevention in pregnancy

OAB0402

Pregnancy and neonatal outcomes following prenatal exposure to cabotegravir (CAB): data from The Antiretroviral Pregnancy Registry (APR)

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Background: Cabotegravir (CAB) is indicated for the treatment of HIV-1 infection in combination with rilpivirine and as a single agent for prevention of HIV. There are limited human data on the use of CAB during pregnancy to adequately assess effect on pregnancy outcomes.
Methods: The APR is a prospective, international exposure-registration cohort study, monitoring for early warning signals of major teratogenic effects of antiretrovirals (ARVs) used during pregnancy. This descriptive analysis assesses pregnancy and neonatal outcomes including birth defects among infants with prenatal exposure to CAB using APR data through 31 July 2024.
Results: Forty-two reported pregnancies with exposure to CAB (28 (66.7%) as CAB for treatment and 14 (33.3%) as CAB for pre-exposure prophylaxis (PrEP)) resulted in 43 out-

comes including 35 (81.4%) live births, 1 (2.3%) stillbirth, 3 (7.0%) spontaneous abortions, and 4 (9.3%) induced abortions (Table 1). Among live births, 1 (2.9%) reported a birth defect (congenital ptosis). Among 33 singleton, live births without defects, 5 (15.2%) were preterm and 6 (18.2%) had low birth weight (LBW) including 3 (9.1%) very LBW. Of the 42 CAB-exposed pregnancies, 39 had CAB pre-conception exposure (27 with earliest exposure 0-6 months prior to pregnancy and 12 with earliest exposure 6-12 months prior to pregnancy) and 3 had earliest exposure during pregnancy (1 each in the 1st, 2nd and 3rd trimester). For the 41 pregnancies where route of administration was known, 38 (92.7%) were exposed to injectable CAB while 3 (7.3%) were exposed to oral CAB.

Total Pregnancy Outcomes	43
Live Births	35 (81.4)
Stillbirths	1 (2.3)
Spontaneous Abortions	3 (7.0)
Induced Abortions	4 (9.3)
Total Live Births	35
Birth Defect Cases	1 (2.9)
Total Singleton, Live Births without Defects	33
Gestational Age >= 37 weeks	27 (81.8)
Gestational Age < 37 weeks (preterm)	5 (15.2)
Missing	1 (3.0)
Birth Weight >= 2500 grams	22 (66.7)
Birth Weight < 2500 grams (LBW)	6 (18.2)
Birth Weight < 1500 grams (very LBW)	3 (9.1)
Missing	5 (15.2)

Table 1. Pregnancy and neonatal outcomes of pregnant individuals exposed to CAB using APR data through 31 July 2024.

Conclusions: While no significant safety concerns were seen, definitive conclusions on the safety of CAB use in pregnancy cannot be drawn due to a limited number of pregnancies reported and the data should be interpreted with caution. Providers are encouraged to register ARV exposed pregnancies, especially those exposed to newer ARVs such as CAB, at APR (apregistry.com).

OAB0403

Determinants of increased antenatal viral load and its association with pregnancy adverse outcomes in pregnant women living with HIV

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Background: An estimated 1.3 million HIV-positive women are pregnant annually. Without any intervention, the mother-to-child HIV transmission rate ranges from 15% to 45%, with maternal HIV viral load being the strongest risk factor. This study investigated the determinants of elevated antenatal viral load and its association with adverse pregnancy outcomes in African women.

Methods: This is a secondary analysis of data collected in a randomized controlled trial conducted in Gabon and Mozambique (2019-2023) evaluating dihydroartemisinin-piperaquine for malaria prevention in HIV-positive pregnant women. Pregnant women attending their first antenatal care visit were enrolled and monitored until delivery. Descriptive statistics, and bivariate and multivariable logistic regression analyses were conducted to identify factors associated with high viral load and its association with adverse pregnancy outcomes.

Results: Among 666 enrolled women, 35% (n=232) presented with high viral load (>150 copies/ml). Anaemia at baseline (OR 1.75, 95% CI 1.18-2.59, p=0.005) and delayed antenatal care antiretroviral therapy (ART) initiation (OR 7.71, 95% CI 5.04-11.81, p=0.000) were significantly associated with high viral load. Regarding the adverse pregnancy outcomes, high viral load was associated with a threefold increased risk of placental malaria (OR 3.28, 95% CI 1.54-7.11, p=0.002).

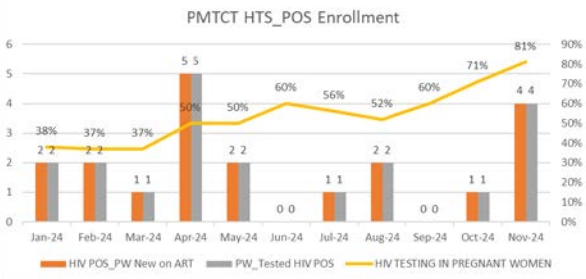
Conclusions: Anaemia and delayed ART initiation were associated with elevated viral load, which in turn increased the risk of placental malaria. These findings highlight the need for comprehensive antenatal care, including early ART access, to improve pregnancy outcomes and reduce vertical transmission risk. Further research should explore the interplay between viral load and placental malaria.

OAB0404

Enhancing HIV screening in pregnant women across 17 quality improvement (QI) supported LGAs : a scalable QI model for PMTCT in Jigawa State, Nigeria

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Background: HIV testing at initial antenatal care (ANC1) is essential for preventing mother-to-child transmission (PMTCT). In Jigawa state, Nigeria, where HIV prevalence is 0.3%, average HIV testing coverage among pregnant women during ANC1 in 17 QI project-supported LGAs was just 37% from January to March 2024, posing significant challenges to PMTCT efforts.
This study evaluates the impact of a Quality Improvement approach in addressing poor testing in low-resource communities.
Description: A QI training facilitated by Jhpiego, a multidisciplinary team—comprising a midwife, facility manager, lab technician, and Ward Development Committee chairman—was established at the LGA. Trained in the WHO Point of Care QI methodology, the team aimed to achieve 90% HIV testing coverage for first antenatal care (ANC1) attendees by December 2024. Utilizing the Plan-Do-Study-Act cycle, they identified challenges—including interrupted kit supplies, poor inventory management, complex client flows, and inadequate staff coordination—using Fishbone diagrams, flow charts, and the 5 Whys. Interventions such as securing alternative procurement channels via the Basic Health Care Provision Fund (BHCPF) or Drug Revolving Fund (DRF), role reassignment, weekly inventory reporting, and prompt requisitions at 70% stock depletion were tested in 3–4 cycles. Monthly data from PMTCT registers, analyzed via the National HMIS and monitored with run charts, guided the scaling up of successful strategies across 17 LGAs, supported by on-site coaching to ensure sustained improvements
Lessons learned: HIV testing coverage for ANC1 improved from 37% in March to 82% in November 2024, identifying 16 positive cases placed on treatment. Sustained gains through monthly performance reviews, inventory management, and real-time data collection.



Conclusions/Next steps: QI demonstrated the potential for targeted improvements in HIV testing and case findings, where service providers identify key barriers to care and propose solutions. This model has the potential for scalable, context-specific improvements in PMTCT programs and can be replicated in similar settings.

OAB0405

Improving data quality as a key strategy towards achieving triple elimination of the vertical transmission of HIV, syphilis, and hepatitis in Chikwawa district, Malawi

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Background: Malawi targets to eliminate vertical transmission of HIV, syphilis and Viral Hepatitis B (HepB) by 2027. This requires effective decision-making and interventions informed by consistently high-quality data.
However, non-reporting and poor and incomplete data have been consistent challenges, including in high-prevalence districts like Chikwawa.
UNICEF supported the National AIDS Commission and the Chikwawa District Council to pilot an intervention to improve the quality of HIV, syphilis and HepB data for pregnant and breastfeeding women and their infants
Description: The pilot was implemented from July to September 2024, in ten high-volume health facilities in Chikwawa district. Facility staff including nurses, clinicians, diagnostic assistants, data clerks and expert clients were trained in correct data recording and reporting to ensure complete high-quality data.
Complete data was defined as the record of every mother, showing tests for HIV, syphilis and HepB, with clear results, appropriate actions taken and follow-up actions recommended.
The staff were further trained to analyse and use the data to inform appropriate actions; identifying eligible mothers, initiating their tests, and following up on those requiring further support.
The district team supervised the facility teams fortnightly to reinforce their capacity.
Lessons learned: The pilot intervention improved the data completeness in antenatal registers from 93% in Q2/2024 to 99.1% in Q3/2024 across the ten facilities. This improved decision-making at the facility and district levels resulting in improved testing services and case management for mothers returning positive results.
The intervention further improved quantification for test kits leading to uninterrupted integrated testing services. This resulted in Chikwawa's highest-ever syphilis testing rate among pregnant women (99%) from an annual rate of 75.8% from July 2023 to June 2024. Similarly, HIV retesting in the third trimester improved from 5% at baseline to 33% after the pilot phase.
The progress was, however, undermined by the deployment of new staff who were yet to be trained in data quality in the target facilities.

Conclusions/Next steps: Continuous mentorship and combined efforts of clinical and non-clinical facility staff are key in ensuring data completeness and quality. Future plans include mentoring all new facility staff and scaling up the intervention to other high-prevalence districts

OAB05 Tuberculosis: From research to the field

OAB0502

A two-by-two factorial randomized trial of immediate and/or sepsis-specific dose anti-tuberculosis therapy to improve mortality for adults with sepsis and HIV in East Africa

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Background: The greatest global burden of sepsis is found in persons living with HIV (LWH) in Africa, in whom tuberculosis (TB) is an often overlooked but leading cause of underlying infection. We aimed to determine whether empiric immediate and/or increased dose anti-TB therapy improved 28-day mortality for participants LWH and admitted to hospital with sepsis in Tanzania or Uganda.
Methods: We conducted a phase 3, multisite, open-label, randomised controlled clinical 2×2 factorial superiority trial of (1) immediate and (2) sepsis-specific dose anti-TB therapy in addition to standard of care for adults LWH admitted with sepsis at four hospitals in Tanzania or Uganda. Standard of care antibiotic regimen was ceftriaxone daily for seven days. The primary endpoint was 28-day mortality with a superiority margin of 13% and assuming 20% unevaluable.
Results: We randomized 437 participants of whom 44 were excluded, leaving 393 analyzable. Of these, 224 (57%) were male. The mean (+SD) age was 43 (+13) years. The median CD4+ T-cell concentration was 125 (IQR, 30-326) cells/mcL, and 202 (51%) were ultimately diagnosed with TB by urine, sputum, or blood-based tests.
No difference occurred in 28-day mortality between the four treatment groups: immediate/conventional dose (22%; 22/99), immediate/sepsis-specific dose (28%; 28/99), diagnosis-dependent/conventional dose (28%; 27/96), and diagnosis-dependent/sepsis-specific dose (23%; 23/99); chi-squared p=0.66.
Among those with TB, a significant difference in 28-day mortality occurred across treatment groups (p=0.045). Compared to a 28-day mortality of 35% (18/52) for the 52 participants with TB who received standard diagnosis-dependent/conventional dose anti-TB therapy, the 28-day mortality for the 50 participants with TB who received immediate/conventional dose anti-TB therapy was 12% (6/50) (adjusted odds ratio [aOR] 0.26, 95%CI, 0.09-0.73, p=0.01), and for the 57 participants with TB who received diagnosis-dependent/sepsis-specific dose anti-TB therapy, the 28-day mortality was 19% (11/57) (aOR 0.42, 95%CI, 0.17-1.03, p=0.06). No differences in adverse events occurred between treatment groups.
Conclusions: No overall benefit in 28-day mortality was observed with immediate or sepsis-specific dose anti-TB therapy in adults with HIV-related sepsis. However, immediate conventional anti-TB therapy significantly reduced 28-day mortality in those later confirmed to have TB.

OAB0503

Same-day antiretroviral therapy initiation in people with HIV and presumptive tuberculosis: a randomized, non-inferiority trial in Lesotho and Malawi (SaDAPT)

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Background: Same-day initiation of antiretroviral therapy (ART) is recommended for most people with HIV (PWH) to promote retention in care, but may increase the risk of tuberculosis-immune reconstitution inflammatory syndrome (TB-IRIS). It is unknown whether same-day ART should be offered to PWH with TB symptoms or whether ART should be initiated only after TB diagnostic results are available.
Methods: We conducted an open-label, 1:1, individually-randomized, non-inferiority trial comparing "ART-first" versus "TB-results-first" initiation among PWH in Lesotho and Malawi, aged ≥12 years, (re)initiating ART who had at least one TB symptom (cough, fever, night sweats or weight loss) and no signs of meningitis. Participants in the "ART-first" arm were offered same-day ART; those in the "TB-results-first" arm were offered ART after TB was confirmed or refuted. The primary analysis was a non-inferiority comparison of viral suppression (<400 copies/ml) 26 (22-40) weeks after enrolment (non-inferiority margin 10%). Secondary outcomes included: retention in care; mortality; non-fatal serious adverse events (SAEs); ART initiation within seven days; and TB-IRIS. NCT05452616.

Results: From 19/10/2022-21/02/2024, 581 participants were randomized and included in intention-to-treat analysis (60% male; median age 37 years; median CD4 201 cells/mm³); 573 included in per-protocol analysis. 296/297 (99%) and 60/284 (21%) in the "ART-first" and "TB-results-first" arms started ART on enrolment day and 59/297 (20%) and 55/284 (19%) were diagnosed with TB by 30 weeks. Viral suppression rates at 26 weeks were 209/296 (71%) in the "ART-first" arm and 196/277 (71%) in the "TB-results-first" arm in the per-protocol population (absolute risk difference -0.8%; 95% CI: -8.4%-6.8%) with similar results in the intention-to-treat population, confirming non-inferiority of "ART-first". Retention in care was 81% in both arms; ART initiation within seven days was higher in "ART-first" (99% versus 86%). Nine and six deaths, eleven and ten non-fatal SAEs, and six and five TB-IRIS events occurred in "ART-first" and in "TB-results-first" arms respectively.

	ART-first arm	TB-results-first arm	Adjusted % risk difference (95% CI)
1° endpoint VL <400 copies/ml after 26 (22-40) weeks (per-protocol)	209/296 (71%)	196/277 (71%)	-0.8 (-8.4 - 6.8)
1° endpoint VL <400 copies/ml after 26 (22-40) weeks (intention-to-treat)	209/297 (70%)	201/284 (71%)	-1.0 (-8.5 - 6.5)
2° endpoint retention in care after 22-30 weeks	240/297 (81%)	229/284 (81%)	0.1 (-6.3 - 6.6)
2° endpoint ART initiation within seven days	296/297 (99%)	243/284 (86%)	14.2 (10.0 - 18.3)

Conclusions: Outcomes of same-day initiation, and ART initiation after TB investigations were comparable and implementation should be guided by program and client preference.

OAB0504

Post-tuberculosis treatment mortality in children and youth initiating ART in the International Epidemiology Databases to Evaluate AIDS (IeDEA) Network

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Background: Tuberculosis (TB) is a major cause of death among children and youth living with HIV (CYLWH). In adults, even after cure, those with former TB are 3-7 times more likely to die following TB treatment. However, the risk of mortality after TB treatment in CYLWH is unknown. We sought to compare the post-treatment mortality in CYLWH who were treated for TB disease with those without TB.

Methods: We analyzed data from CYLWH (0-24 years) who initiated ART at <25 years old from 2004-2021 at IeDEA-participating sites in six regions and who had at least 9 months of follow-up from time of ART initiation. Participants who had initiated treatment for active TB disease 3 months prior to or after ART initiation were the TB disease group; those without documentation of any TB treatment through 9 months after ART initiation were the TB-negative/control group. Cumulative incidence of death (CID) from 9 months after ART initiation onward was calculat-

ed with lost-to-follow-up and transferred-out treated as competing risks. Fine-Gray competing proportional hazard modeling was used to compare the hazard of death, adjusting for age, sex, CD4, WHO Stage, and weight-for-age Z-score.

Results: Among 75,259 CYLWH included, 3,622 had been treated for TB disease and 62,495 had no TB history. The CID rose constantly from 2-15 years post-ART initiation from 3.8% (95%CI: 3.2%-4.5%) to 20.4% (95%CI: 18.3%-22.5%) in the TB disease group vs 1.6% (95%CI: 1.5%-1.7%) to 10.9% (95%CI: 10.2%-11.5%) in the control group respectively (figure 1). In bivariate analysis, the sub-hazard risk of death among those in the TB disease group was 2.2 (95%CI: 2.0-2.4) times that of the controls. This difference remained unchanged after adjustment (aHR 2.1 [1.9-2.4]).

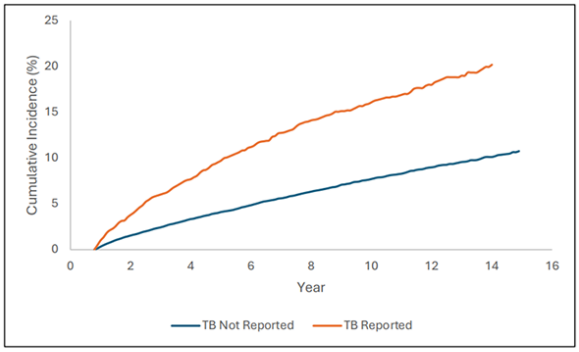


Figure 1: Cumulative incidence of death from 9 months after date of ART initiation among those treated for TB disease (orange) and those without TB (blue). Log-Rank P <0.0001.

Conclusions: Among CYLWH on ART, receiving TB treatment near ART initiation (vs those without TB) was associated with increased mortality even 15 years after TB treatment.

OAB0505

Predictors of recurrent tuberculosis among people living with HIV under routine ART care: an observational cohort study, Andhra Pradesh, India, 2024

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Background: Recurrent tuberculosis (TB) is associated with poor treatment outcomes compared to primary TB infection and has implications for TB control. India's national guidelines recommend post anti-TB treatment (ATT) follow-up for two years from the last date of ATT, spaced at 6-month intervals. The TB recurrence rate among non-people living with HIV (PLHIV) under program settings is 2.7%. However, limited data is available on recurrent TB predictors among PLHIV in India.

Methods: We analysed secondary program data from 14 antiretroviral therapy (ART) clinics located in three high-burden districts (East Godavari, Krishna, and Guntur) of Andhra Pradesh. PLHIV were screened for TB (4 symptom screening) during every visit for ART pill pick-up. We included adult PLHIV aged >15 years who initiated and completed ATT successfully during January 2017–December 2021 and followed-up for two years from ATT completion and calculated recurrent TB incidence rate (IR) per 100 person-years (PY). We used adjusted Cox proportional hazard models and calculated hazard ratios (HR) to determine predictors of recurrent TB.

Results: The 3,357 PLHIV meeting the inclusion criteria accounted for 6,372 PY of follow-up. A total of 270 PLHIV were diagnosed with recurrent TB during follow-up (IR:4.24 PY, 95%CI:3.75-4.77). Select variables, such as microbiologically diagnosed pulmonary TB (HR:1.79, 95%CI:1.12-2.88), CD4 count ≤200 cells/mm^3 at recurrent TB diagnosis (HR:1.38, 95%CI:1.03-1.87), HIV treatment interruption during follow-up (HR:2.38, 95%CI:1.79-3.16), no exposure to dolutegravir-based regimen during follow-up (HR:2.38, 95%CI:1.79-3.16), HIV viral load ≥1000 copies/ml at recurrent TB diagnosis (HR:3.25, 95%CI:2.14-4.94), no exposure to secondary prophylaxis of isoniazid (HR:1.32, 95%CI:1.04-1.68), and >9-month delay of isoniazid preventive therapy initiation after completion of ATT (HR:1.66, 95%CI:1.21-2.28), were associated with significantly higher risk of recurrent TB.

Conclusions: The higher rate of incidence for post-ATT recurrent TB could be due to increased opportunity for TB screening at ART clinics compared to community-based or non-HIV settings. ART clinic staff may focus on modifiable risk factors, such as preventing HIV treatment interruption, enabling viral load suppression, and ensuring early initiation of secondary TB preventive treatment to reduce the rates of recurrent TB among PLHIV.

OAC01 From PrEP to harm reduction: Scaling up comprehensive HIV prevention strategies

OAC0102

Averting new HIV acquisitions through micro-targeting of integrated community interventions with precision. A case of Nyarutojo Parish Kambuga TC, Kanungu district Southwestern Uganda

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Background: Uganda still experiences challenges in identification of new HIV acquisitions despite commendable progress towards attainment of the UNAIDS global 95-95-95 targets. To end AIDS by 2030, more efficient and targeted case finding approaches need to be employed to reach the remaining pockets of the population with unknown HIV status. USAID LPHS Kigezi & Lango Activity piloted use of precision targeting to guide community interventions focused to reaching the most at-risk populations with HIV services geared at averting new acquisitions.

Description: Patient level data on viral load non-suppression, interruption in treatment, and HIV positivity was extracted from Uganda EMR and utilized to make geospatial maps that informed identification of geographical locations with highest HIV transmission risk. Nyarutojo parish in Kanungu district was identified as one of the 'hottest hotspots' parishes. Dialogue meetings were conducted with health workers at health facilities serving this parish, key population peers and key community gate keepers. Profiling of these hotspots revealed; many bars with high numbers of "trafficked" adolescent girls and young women working as bar attendants but also engaged in commercial sex work, mobile men with disposable income from coffee trade and high prevalence of STIs. Client HIV charts were reviewed to validate the missing services for clients with non-suppressed viral load and those that had dropped out of care. Integrated outreaches to provide HIV prevention, care and treatment services have been conducted and linkages established with livelihood programs.

Lessons learned: 427 individuals were reached with HIV prevention services. 92.3% (394) were offered risk based HTS with 8 HIV positives and linked into care. 298 (85%) of the 386 that tested HIV negative were screened for PrEP and 103 (67%) of the 152 PrEP initiated.

- Community livelihood skilling project that attracts AGYW can provide a platform for accessing HIV combination prevention packages and testing services.
- Missed opportunity for HIV testing for STI clients majorly presenting at HC IIs without HIV testing services.
- Precision targeting revealed new hot spots beyond the traditional ones.

Conclusions/Next steps: Precision targeting optimizes access to a combined HIV prevention package for the most at risk populations.

OAC0103

High acceptability and accuracy of combined HIV self-testing and genital secretion self-collection for oncogenic HPV molecular detection among female sex workers in Democratic Republic of the Congo

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Background: HIV infection is one of the major cofactors of oncogenic high-risk Human papillomavirus (HR-HPV) which is associated with cervical cancer. Female sex workers (FSWs) in sub-Saharan Africa (SSA) are at very high risk of both HPV- and HIV- co-infections. Synergy of innovative methods such as genital self-sampling (GSS) and HIV self-testing (HIVST) constitute promising way of controlling both viral infections. This study aimed to assess the effect of peer education-based rapid training (PERT) on the acceptability and usability of GSS and HIVST in adult FSWs living in Kisangani and Bunia, Democratic Republic of the Congo (DRC).

Methods: The study is a community-based, individually randomized controlled trial (1:1). In control group, FSW were asked to execute in private setting at home, at their own pace and in an autonomous way the GSS with vaginal veil (V-Veil Up UP2™, V-Veil-Up Production SRL, Romania) and HIVST using capillary-based HIV self-test (Biosynex, Strasbourg, France). In intervention group, FSW received approximately one hour of PERT by two trained peer educators. PERT was systematically carried out with the help of a *vade-mecum* including key education messages concerning HIV infection, HPV and the simplified instructions for GSS and HIVST.

Results: A total of 613 FSWs were prospectively included, with 309 in control group and 304 in intervention group. Rates of acceptability (GSS: 98% *versus* 76%; OR: 4.3 [95% CI: 2.0-6.6] and HIVST: 96% *versus* 84%; OR: 2.3 [95% CI: 1.1-4.8]) and usability (GSS: 99% *versus* 81%; OR: 3.8 [95% CI: 1.5-5.6] and HIVST: 100% *versus* 89%; OR: 3.2 [95% CI: 1.8-7.3]) of GSS and HIVST were higher in FSWs offered PERT than in those not offered. The educational level and age of FSWs were not associated with acceptability and usability in multivariate analyses. Moreover, the average of satisfaction level on Likert scale (1-5) after performing GSS and HIVST was higher among FSWs receiving PERT than those not receiving it (GSS: 4.2 *versus* 3.7; *P*=0.003 and HIVST: 4.4 *versus* 4.1; *P*=0.012).

Conclusions: This study highlights the need for educational intervention adapted to vulnerable poorly educated populations living in SSA to support innovative interventions such as combined HIVST and GSS.

OAC0104

Upscaling HIV testing and clinical service uptake among male sexual partners of adolescent girls and young women in rural Eswatini communities through invitation cards for adolescent boys and young men

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Background: World Vision Eswatini (WVE) is implementing a project that is targeting orphaned and vulnerable children as well as adolescent girls and young women, with the goal of reducing new HIV infections in Eswatini. HIV testing is essential for awareness of HIV status and an important component of HIV epidemic control. According to a recent HIV incidence survey (SHIMS 3), 38.9% of males between the ages of 15-24 reported to have received an HIV test in the last 12 months before the survey while females were at 61.4%.

The Multi-Indicator cluster survey (MICS) 2021 findings show that 56.4% of males aged 15-24 years who are sexually active tested for HIV and know the results while their female counterparts reported 80.8%. Observed low clinical service uptake among men necessitates innovations in demand creation.

Description: WVE piloted an innovation themed "Lisango – The Men Cave" which uses an exclusively designed invitation card to invite males between the ages of 15-45 years, who are sexual partners of enrolled AGYW. AGYW shared the card with their sexual partners and other male counterparts. Community based mentors also distributed the invitations on behalf of AGYW that expressed discomfort in personally extending the invitation to their sexual partners. Males confirmed their attendance on the cards. Sessions end with an officer issuing health referrals prioritizing combination HIV prevention services including HIV Testing Services (HTS), and other clinical services. In 2024, WVE reached 564 males who accessed health services including HTS, 44 were initiated on PrEP, 100 were screened for STI while 441 accessed condoms.

Lessons learned: Empowering AGYW to advocate for themselves with their sexual partners is important in the efforts to end HIV. AGYW led mobilization strategies of strategies yielded improvements in HIV Testing and PrEP and condom uptake among Sexual partners. and can be prioritized for scale up.

Conclusions/Next steps: Upscaling HIV prevention service uptake requires innovative demand creation strategies and using AGYW in mobilizing their sexual partners can increase case finding in communities.

OAC0105

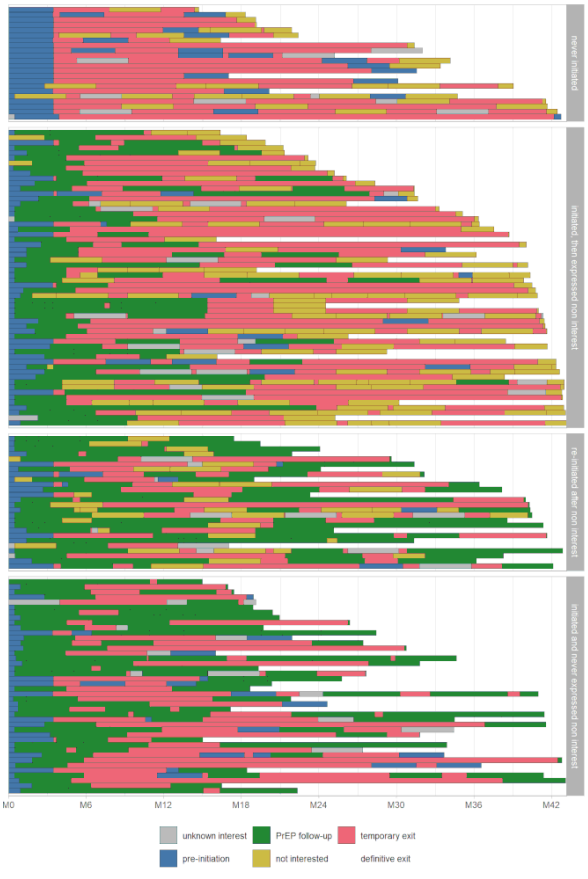
Adoption of HIV preexposure prophylaxis (PrEP) among female sex workers (FSWs) in Côte d'Ivoire: complex trajectories and early adopters

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Background: The ANRS 12381 PRINCESSE project (11/2019-06/2023) enrolled 489 FSWs and implemented community-based sexual and reproductive health care, including PrEP, delivered through mobile clinics at prostitution sites in the San Pedro region. This presentation aims to describe PrEP trajectories and the factors associated with its use, focusing on "early adopters".

Methods: This analysis included 400 FSWs eligible for PrEP (HIV-negative, HBsAg-negative) enrolled up to December 2022 (>6 months of follow-up). Clinical records were analyzed to describe PrEP cascade, follow-up, and PrEP trajectories. A multivariable logistic regression identified factors associated with PrEP early adopters.



Results: Although 98% of eligible FSWs were interested in PrEP, only 62% initiated PrEP, and 39% renewed it at least once. Follow-up was very short (<6 months) for 48%, short

(6-12 months) for 15%, seasonal (>12 months with a gap of 6 months between two visits) for 31%, and regular (>12 months with no gap) for 6%.
PrEP initiation was high among FSWs with regular (96%), seasonal (83%), or short (80%) follow-up, vs. 39% for those with very short follow-up. Among those who initiated, only 88% (regular), 70% (seasonal), 74% (short), and 35% (very short) renewed PrEP.
Among 148 FSWs with regular/seasonal follow-up, four PrEP trajectories were identified (cf. figure showing individual trajectories): 15% "never initiated" PrEP, 39% "initiated and were later not interested anymore", 18% "re-initiated after non-interest", and 28% "initiated and never expressed non-interest", the last two groups being considered as "early adopters".
Factors associated with early PrEP adoption included the usual price of intercourse with clients <1500 FCFA (aOR=2.4 [1.2-4.8]) and working in brothels (aOR=3.2 [1.6-6.6]).
Conclusions: In PRINCESSE, loss-to-follow-up and seasonality of risks limited PrEP adoption. FSWs who were more precarious and less mobile became early adopters of this new prevention tool and could serve as potential ambassadors for promoting its uptake.

OAC02 Destination zero new acquisitions: Hailing a CAB to PrEP success

OAC0202

USAID-supported PrEP introduction and scale up, 2016- 2024

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Background: Pre-exposure prophylaxis (PrEP) is a safe and highly efficacious form of biomedical HIV prevention; however, only an estimated 3.5 million people in 2023 were using oral PrEP, short of the UNAIDS global target of 21.2 million users by 2025. The U.S. Agency for International Development (USAID), through PEPFAR and in partnership with host countries' ministries of health, provided support for PrEP implementation beginning in fiscal year 2017 (FY17) until ordered to stop work by the Trump administration in January 2025.
Methods: This analysis used the PEPFAR Monitoring, Evaluation, and Reporting data to describe USAID-supported PrEP initiations globally from October 1, 2016 (FY17 quarter 1) through September 30, 2024 (FY24 quarter 4), by prioritized population (adolescent girls and young women age 15-24 [AGYW], pregnant and breastfeeding women [PBFW], and key populations [KP] (female sex workers [FSW], men who have sex with men [MSM], transgender people [TG], people who inject drugs [PWID], and persons in prisons and other closed settings)) and geographies.
Results: USAID expanded support for PrEP initiation from 14 countries in FY17 to 43 countries in FY24. In total, USAID supported 3,776,559 people to initiate PrEP. Ninety-two percent of these initiations occurred between FY21-FY24, following a PEPFAR-wide initiative to initiate 1 million people on PrEP in FY21. Distribution by population was: 2,187,746 (58%) KP (FSW: 1,199,332; MSM: 773,304; people in prisons and other closed settings: 33,648; PWID: 109,150; TG: 72,492); 2,724,770 (72%) AGYW; and 57,628 (1.5%) PBFW (FY24 data only). In FY24, USAID supported the introduction of long-acting injectable cabotegravir (CAB-LA), with 2,490 CAB-LA initiations. Distribution by geography was: 47,304 (1.3%) the Americas; 149,165 (3.9%) Southeast Asia; and 3,580,090 (95%) sub-Saharan Africa.
Conclusions: USAID contributed an estimated 18% towards the UNAIDS 2025 global target. The U.S. Secretary of State has stated that USAID will not operate after September 1, 2025. Without USAID-supported PrEP, global populations will be more vulnerable to infection, erasing decades of work towards HIV epidemic control and creating preventable HIV morbidity and mortality.

OAC0203

Cost-effectiveness of cabotegravir long-acting for HIV pre-exposure prophylaxis (PrEP): a systematic review of modelling studies

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Background: Cabotegravir long-acting (CAB-LA) is a promising HIV prevention strategy; however, its cost-effectiveness compared to oral pre-exposure prophylaxis (PrEP) varies across settings. This systematic review examines the economic viability of CAB-LA interventions using modelling studies in diverse populations.
Methods: We searched literature databases for modelling studies on the cost-effectiveness of CAB-LA in various settings. The search was executed in PubMed, Web of Science, Scopus, and the Cochrane Library. The search was conducted in January, 2025, and was limited to English studies; but there was no limitation on year of publication. Quality assessment was based on the 2022 CHEERS checklist for economic evaluation studies.
A narrative synthesis was conducted to summarize the findings. Key outcomes to be extracted included study characteristics and design, incremental cost-effectiveness ratios (ICERs), adherence rates, and willingness-to-pay (WTP) thresholds.
Results: The search retrieved nineteen results, but only six modeling studies meeting predefined inclusion criteria were included. These studies evaluated CAB-LA among various populations, including heterosexual men, women at high risk of HIV, men who have sex with men (MSM),

transgender women (TGW), and large simulated cohorts. The studies employed static epidemiological models, deterministic compartmental models, and Markov cohort models to evaluate CAB-LA alongside oral PrEP. Quality assessment results show that studies were of moderate and high quality. CAB-LA demonstrated potential cost-effectiveness under specific conditions.

In Sub-Saharan Africa, CAB-LA achieved ICERs below $1,000 per disability-adjusted life year (DALY) averted at adherence rates exceeding 75%. In high-income settings, ICERs for CAB-LA remained below $98,000 per quality-adjusted life year (QALY) when drug costs were reduced to $4,100/year. Low-income settings required annual costs below $16 for cost-effectiveness. Epidemiological benefits included a 30%-40% reduction in HIV incidence with optimal adherence. Drug pricing, adherence, and quarterly monitoring were identified as key determinants of cost-effectiveness. Comparisons with oral PrEP indicated that CAB-LA could be more cost-effective in populations with low adherence to oral regimens.

Conclusions: CAB-LA is a cost-effective HIV prevention intervention under specific economic and adherence scenarios. Reducing drug costs and enhancing adherence strategies are critical to optimizing its economic and epidemiological impact.

OAC0204

Equivalent performance of HIV oral fluid self-testing and rapid testing compared to nucleic acid amplification test in screening adolescents for long-acting injectable cabotegravir in Brazil

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Background: Limited data are available on the risk of developing integrase inhibitor resistance among individuals initiating long-acting injectable cabotegravir (CAB-LA) during acute HIV infection. While nucleic acid amplification test (NAAT) is considered the gold standard in this scenario, its routine implementation during CAB-LA initiation may be impractical due to its high cost and longer processing time.

This study aimed to assess the performance of the HIV oral fluid self-test (ST) and the rapid test (RT) in comparison to NAAT for guiding CAB-LA initiation among adolescents in Brazil.

Methods: The PrEP15-19 Choices study is a real-world implementation project evaluating the use of oral and CAB-LA PrEP among cisgender men who have sex with men, transgender and non-binary individuals aged 15-19 years in three cities in Brazil. Data were collected between April 2024-January 2025. Adolescents enrolled in the CAB-LA arm underwent the HIV Detect® Oral Fluid ST. Peripheral venous blood samples were also collected to perform the fourth-generation RT (Determine™ HIV Early Detect) and the NAAT (Xpert® HIV-1 Qual), which served as the reference standard. The ST and RT were evaluated as index tests against NAAT, with sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and kappa agreement coefficients calculated.

Results: Of the 479 adolescents enrolled in the study, 180 (37.6%) opted to initiate CAB-LA and were screened for HIV infection. Two participants were excluded: one due to a missing ST result and another due to an inconclusive ST result recorded by the participant. Among the remaining 178 participants (98.9%) with completed tests, 5 (2.8%; 95% confidence interval [CI]:1.0–6.8) tested positive across all methods, while 173 (97.2%; 95%CI:93.2–99.0) tested negative across all methods. Both the oral fluid ST and the RT demonstrated a sensitivity, specificity, PPV, and NPV exceeding 99.9% (p = 0.006; kappa = 1).

Conclusions: Despite limitations in the sample size, the findings suggest that both ST and RT produced results that were consistent with the NAAT, indicating that they might be viable for diagnosing adolescents, including those from diverse sexual and gender identities. This could have implications for improving accessibility to testing and treatment for this group.

OAC0205

Evaluating HIV testing strategies to reduce drug resistance during CAB-LA rollout in Thailand. a modelling study

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Background: Long-acting cabotegravir (CAB-LA), an integrase strand transfer inhibitor (INSTI), is effective as pre-exposure prophylaxis (PrEP). CAB-LA delays HIV detection, allowing its continued use after HIV acquisition and increasing the risk of INSTI resistance mutations. Resistance to CAB-LA leads to cross-resistance with dolutegravir, a key drug in WHO-recommended HIV treatment regimens. CDC recommends sensitive antigen and RNA tests for timely HIV detection in CAB-LA users, but these tests are expensive and not widely available.

We study the impact of testing strategies on HIV transmission and drug resistance after CAB-LA implementation.

Methods: An HIV transmission model calibrated to the Thai HIV epidemic among men-who-have-sex-with-men (MSM) assumed an increase in PrEP users from the current 50,000-70,000 to 100,000 by 2034. CAB-LA use ranged from

0% to 100% of PrEP users by 2034. Literature indicated CAB-LA during HIV carries a 50%–100% risk of resistance development, and INSTI resistance reduces viral transmissibility by 30%–40%. The study compares CAB-LA implementation to the current situation (0%-5% resistance during viral failure with a dolutegravir containing regimen, no transmission of INSTI resistance). The model assumed CAB-LA use for one year with HIV testing every two months.

Three HIV testing scenarios were assessed:

1. The most sensitive scenario in which all new infections are identified, and two less sensitive testing scenarios:
2. Acute infections undetected, and;
3. 50% of infections undiagnosed during the first year.

Results: Without CAB-LA, 40,000 new infections occur between 2024 and 2034, and 524 individuals are expected to have INSTI drug resistance during viral failure with a dolutegravir containing regimen. CAB-LA can avert 1,600-6,200 infections (20%–100% uptake) but increases INSTI drug resistance cases by 28–94 individuals during viral failure (increase 5-18%) and by 4–15 individuals through transmitted INSTI resistance. More sensitive HIV testing reduced resistance during viral failure by 9–36 (reduction 32-38%) individuals and transmitted resistance by 2–6 individuals (40-50%).

Conclusions: CAB-LA introduction in Thailand can reduce new HIV infections but may simultaneously increase drug resistance to INSTIs. More sensitive HIV testing will prevent INSTI resistance. However, given the low INSTI resistance incidence, more sensitive testing is not critical for CAB-LA rollout.

OAC03 From distribution to linkage: Strategies to improve HIV self testing, diagnosis and care across diverse settings

OAC0302

Evaluating the impact of HIV self-test distribution on HIV diagnosis across health facilities in Kenya

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Background: HIV self-testing (HIVST) can reduce barriers to HIV diagnosis, especially in resource-limited settings with limited staffing and high HIV burden. While the impact of HIVST roll-out on HIV diagnosis rates has been evaluated in randomized controlled trials, few studies have assessed its effects in routine practice at a national scale.

This study evaluates the impact of HIVST on HIV diagnosis across Kenyan health facilities using routine programme data.

Methods: We used multivariable linear regression models to evaluate the association between the number of HIVST kits distributed and the number of HIV-positive diagnoses monthly at the health-facility level. As a sensitivity analysis, we adjusted the model for either the monthly facility-based HIV testing volume or the number of facility-based HIV-negative tests, as two separate models. Both models were further adjusted for county-level HIV prevalence. In the subgroup analyses, we modeled the effect of total HIVST kits distributed on HIV-positive diagnoses by age and sex subgroups.

These models were also adjusted for either facility-based HIV testing volume or HIV-negative tests within the respective subgroup, as well as county-level HIV prevalence. Analyses were restricted to health facilities with available data for both HIVST and facility-based tests.

Results: From 2019 to 2023 in Kenya, across 5,883 health facilities, 1,399,865 HIVST kits were distributed and 20,556,949 facility-based tests were conducted. Every 1,000 distributed HIV self-tests were associated with an estimated 4.33 additional HIV-positive diagnoses (95% CI: 4.30–4.35; p<0.001), in the facility-based tests adjusted model, and 4.61 (95% CI: 4.58–4.63; p<0.001) in the HIV-negative tests adjusted model. Subgroup analysis showed the largest impact among women aged 25+, in whom every 1,000

distributed self-tests (regardless of the age/sex of recipient) was associated with an additional 38.85 (95% CI: 38.17, 39.52; p<0.001) HIV-positive diagnoses in the facility-based tests adjusted model, and 42.69 (95% CI: 42.00, 43.38; p<0.001) in the HIV-negative tests adjusted model.

Conclusions: HIVST was associated with large numbers of HIV-positive diagnoses at Kenyan health facilities, especially among women aged 25+. These findings support continued integration of HIVST into national HIV programs. Strengthening routine data systems is essential for ongoing evaluation of HIVST impact.

OAC0303

Closing the gap: the impact of HIV self-testing distribution on newly diagnosed cases in South Africa

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Background: HIV self-testing (HIVST) provides convenient and confidential HIV testing. However, these characteristics can make evaluating the impact of HIVST investment challenging.

We used routine programme data to assess the impact of HIVST based on the number of people confirmed HIV-positive at healthcare facilities in South Africa.

Methods: The association between district-level HIVST distribution in 2022 and district-level confirmed HIV-positive tests at public healthcare facilities in 2023 was analyzed using multivariable linear regression (temporal lag to account for potential delays between self-testing and facility-based, provider administered, HIV testing [FTs] uptake). Models were adjusted for total FTs conducted and HIV prevalence.

Subgroup analyses stratified models by sex and distribution type, distinguishing between tests intended for the recipient's use (primary) and those for recipient contacts (secondary). Sex and age for FTs and confirmed HIV-positive tests were unavailable.

Results: Routine data showed 884,493 HIVSTs distributed across 34 districts in 2022 and 17,512,893 FTs conducted in all 52 districts in 2023. Every 100 FTs were associated with 2.4 (SE 0.1, p<0.0001) people confirmed HIV-positive at healthcare facilities (Table).

Every 100 HIVST distributed were associated with 3.2 (SE 1.3, p=0.02) additional individuals confirmed HIV-positive. Impact was concentrated among men, with 31.0 (SE 13.5, P=0.03) confirmed HIV-positive individuals per 100 HIVST distributed to men, and no significant association for HIVST distributed to women. Distribution type was not statistically significant: primary HIVST distribution showed a non-significant increase of 7.5 (SE 4.4, P=0.1); secondary distribution showed a non-significant decrease of 3.4 (SE 8.4, P=0.69).

Model	Explanatory Variables	Estimate (Number of new facility-confirmed HIV-positive cases per 100 tests distributed)	Standard Error	p-Value
1 [r-squared 0.94]	Total HIVST 2022 [n=884,493]	3.2	1.3	0.02*
	Facility HIV tests 2023 [n=17,512,893]	2.4	0.1	<0.0001 ***
2 [r-squared 0.94]	Female [n=449,552]	-10.4	8.8	0.25
	Male [n=290,337]	31.0	13.5	0.03*
	Sex unknown [n=144,604]	-2.3	5.5	0.67
	Facility HIV tests 2023 [n=17,512,893]	2.3	0.2	<0.0001 ***
3 [r-squared 0.94]	Primary [n=549,945]	7.5	4.4	0.10
	Secondary [n=55,884]	-3.4	8.4	0.69
	Facility HIV tests 2023 [n=17,512,893]	2.4	0.2	<0.0001 ***

Table: Prevalence-adjusted multiple linear regression estimates: new facility-confirmed positives per 100 tests distributed.

Conclusions: HIVST is associated with a significant increase in identification of new HIV-positive cases in South Africa, with the impact primarily observed among men. Routine HIVST distribution can address gaps in HIV testing and linkage, particularly for engaging men.

OAC0304

Overcoming stigma: applying peer-based outreach and linkage strategies to enhance linkage to care after HIV self-testing (HIVST) among key populations (KP) in Uganda

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Background: Uganda's KP communities face a higher burden of HIV, with prevalence rates two to five times higher than the general population. Stigma, social exclusion, harsh cultural and political environments limit access to HIV testing and care. Despite the increased accessibility of and privacy offered by HIVST, KP communities still encounter social and self-imposed stigma that hinders linkage to care. Through the Unitaid HIVST Africa III initiative, PATH and Uganda Ministry of Health leveraged peer-driven HIVST distribution and follow-up strategies to improve linkage to testing and care among KPs.

Description: The project introduced peer-based community distribution models, using peer supporters recommended by KP communities who shared similar identities. Peer supporters and their supervisors (health care providers/contact points at linkage health facilities) were trained on HIVST, basic counseling techniques, including HIV stigma reduction strategies. Peer supporters distributed HIVST kits at popular congregation points, and through door-to-door and community outreach. They leveraged KP networks on social media platforms to share information and videos on HIVST, and used phone calls, WhatsApp, or a toll-free line for client follow up for post-test counseling and results. Clients with reactive HIVST results were escorted to health facilities by peer supporters and linked to supervisors for guided referrals through confirmatory diagnosis and care.

Lessons learned: 104,739 (51%) among 203,377 people provided with HIVST kits from November 2020 through May 2022 were from KP communities. 35,087 (33%) individuals from KP communities self-tested reactive, among whom 29,578 (84%) were successfully linked to diagnosis and care, reflecting a higher linkage than the national average (79%).

Leveraging peer supporters and facility-based supervisors trusted among KP communities and training them on HIV stigma reduction counseling was crucial for establishing a foundation of trust that facilitated follow-up and linkage. Using technology and social media to counsel and follow up with KP communities afforded greater privacy that contributed to higher follow-up and linkage rates.

Conclusions/Next steps: Peer-led outreach and follow-up can significantly improve linkage to care following HIVST among KP communities in Uganda, highlighting the importance of introducing and scaling tailored peer-based interventions and stigma reduction strategies to enhance continuity in HIV care among KP.

OAC0305

Acceptability and feasibility of HIV self-testing for partner notification among sexual and drug-injecting partners of people living with HIV in low- and middle-income countries: a systematic review

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Background: HIV self-testing (HIVST) enhances HIV diagnosis, but information on its integration for index testing to partner notification is limited in middle-income countries. Assessing the acceptability and feasibility of index HIVST and partner testing among people living with HIV (PLHIV) and undiagnosed key populations is critical to ending the AIDS epidemic.

Methods: A mixed-method systematic review using a convergent segregated approach was conducted using Joanna Brigs Institute's methodology. Four databases were used for a literature review from October 2023 to March 2024 and included studies published between 2016-2023. Rayyan software was used for full-text screening. Meta-analysis was found infeasible, but qualitative meta-aggregation was conducted.

Results: A total of 4076 studies were retrieved, and 72 studies met the inclusion criteria after a full review. Most of these studies were from the African region, with only one from South Asia and a few from East Asia. Index HIVST and partner testing were found acceptable and feasible among PLHIV and undiagnosed key populations. Despite low partner elicitation ratios by assisted partner notification, a higher positivity rate among notified individuals was noted. Preferences for index HIVST and partner testing varied with more inclination for assisted and passive partner referrals to overcome the risk concerning HIV status disclosure. The index HIVST showed a low cost per infection averted, indicating that it was a cost-effective intervention. Findings were skewed towards married couples, with less evidence on unmarried and undiagnosed key populations. The need for uniform policy, legal power, and standardized protocol for trained providers was highlighted.

Conclusions: Index HIVST were found acceptable and feasible in reaching index partners, including untested and undiagnosed partners of key populations, provided various testing approaches are used. Assisted partner notification resulted in high positivity rates despite low-index partner elicitation, suggesting the need for various referral options to address social harms, stigma, and discrimination. There is a critical need to study unmarried HIV index cases and undiagnosed key populations, particularly in the Southeast Asian region, to bridge HIV case detection gaps.

Further research should address the overrepresentation of married couples and focus on key population for a more holistic understanding of index HIVT and partner testing.

OAC04 The emerging landscape of PrEP choice

OAC0402

Lessons learned from the introduction of PEPFAR supported Long-Acting injectable Cabotegravir (CAB-LA) in shaping global prevention efforts

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Background: 1.3 million people acquired HIV in 2023, falling short of UNAIDS's goal of fewer than 370,000 individuals by 2025. In fiscal year (FY) 2024, PEPFAR supported 90% of global PrEP programming, and introduced long-acting injectable cabotegravir (CAB-LA) in Eswatini, Malawi, Ukraine, Zambia, and Zimbabwe.

This analysis summarizes CAB-LA uptake, oral PrEP to CAB-LA switching, and the contribution of CAB-LA to overall PrEP uptake in the first year of introduction.

Methods: PEPFAR Monitoring, Evaluation, and Reporting (MER) indicators PrEP_NEW (PrEP naive individuals initiated on PrEP) and PrEP_CT (individuals returning or re-initiating PrEP at least once that quarter), disaggregated by PrEP type were analyzed. FY24 results were restricted to quarters that CAB-LA was available.

The number of individuals returning for PrEP was averaged across quarters that CAB-LA was available in all five countries. Switching from oral PrEP to CAB-LA was only measured in the first quarter CAB-LA was introduced in each country using PrEP_CT.

Results: Across all five countries, 441,269 individuals initiated PrEP and, on average, 127,292 returned for PrEP when both PrEP options were available. In FY24, 3,772 PrEP-naive individuals initiated CAB-LA, and 900 switched from oral PrEP to CAB-LA in the first quarter of CAB-LA introduction. Eswatini, Malawi, and Zambia reported more PrEP-naive individuals initiated on CAB-LA, compared to individuals switching from oral PrEP to CAB-LA. Compared to the same quarters in FY23, CAB-LA introduction correlated with a 25% increase in PrEP initiations and a 33% increase in PrEP return.

Conclusions: PEPFAR has been instrumental in introducing and scaling new prevention products worldwide. The introduction of CAB-LA demonstrates the potential to increase uptake and reach PrEP-naive populations across countries. By diversifying prevention options, CAB-LA complements oral PrEP programming and catalyzes PrEP uptake, enabling broader coverage.

Lessons learned from early introduction informs scale-up and expansion of long-acting PrEP (LA-PrEP), including CAB-LA and Lenacapavir. With HIV at the cusp of epidemic control, interruptions in PEPFAR financing undermines gains made over the past two decades, results in significant delays in introducing and scaling LA-PrEP, and limits access to life-saving prevention for populations at high risk of HIV acquisition.

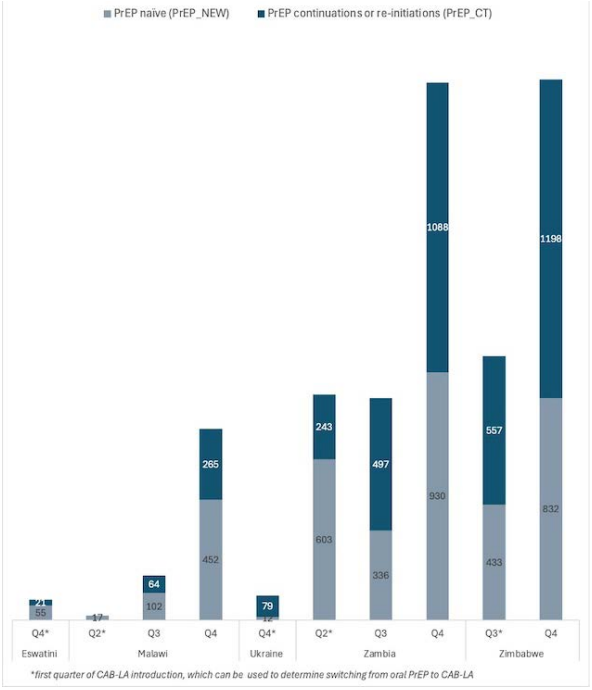


Figure. PEPFAR supported CAB-LA uptake by country and quarter, October 2023 - September 2024.

OAC0403

Choices in motion: how young people in the PrEPared to Choose study (Cape Town, South Africa) navigate PrEP product switching

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Background: The introduction of novel, long-acting HIV pre-exposure prophylaxis (PrEP), including injectables and the vaginal ring, ushers in an era of PrEP choice. While much focus has been on the initial choice of PrEP product, PrEP users are likely to show dynamic PrEP product preference and use over time. PrEPared to Choose (PtC) is one of the first implementation studies allowing for unscheduled PrEP product switching between three available PrEP formulations.

Methods: PtC delivers PrEP choice, including oral PrEP, Cabotegravir long-acting (CAB-LA) injectable PrEP, and the Dapivirine-containing vaginal ring (DVR), to 1164 adolescents and young people (15-29 years) and their intimate male partners in Cape Town, South Africa. HIV counsellors provide comprehensive PrEP counselling that prioritizes accurate PrEP information and supports individual choice. Participants can switch between PrEP products, if clinically eligible, at any time over the 18-month study period. We report early product switching patterns between baseline and month three follow-up.

Results: 1164 individuals initiated PrEP, including oral PrEP (n=290), DVR (n=12), and CAB-LA (n=862). The median age was 24 (20–28) years, with adolescent girls and young women (AGYW) comprising 62.8% of participants. Of 82 oral PrEP users that returned at month 1, 25.61% transitioned to CAB-LA, with 71.43% of those transitioning being AGYW (see Diagram 1).
Of 21 individuals who switched to CAB-LA, 15 (71.43%) continued with CAB-LA at month 3. Of 608 individuals who initiated and continued CAB-LA at month 1, 97.37% remained on CAB-LA.

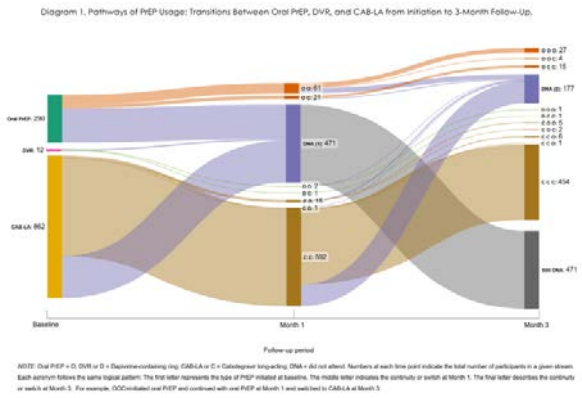


Diagram 1. Pathways of PrEP Usage: Transitions Between Oral PrEP, DVR, and CAB-LA from Initiation to 3-Month Follow-Up.

Conclusions: Early continuation on PrEP overall and on the initiated PrEP product was substantially greater amongst PrEP users initiating CAB-LA compared to oral PrEP. With a quarter of persistent oral users at month 1 opting to switch to CAB LA, it is evident that true choice is an ongoing process that requires appropriate counselling support and clinical management for transitioning between products.

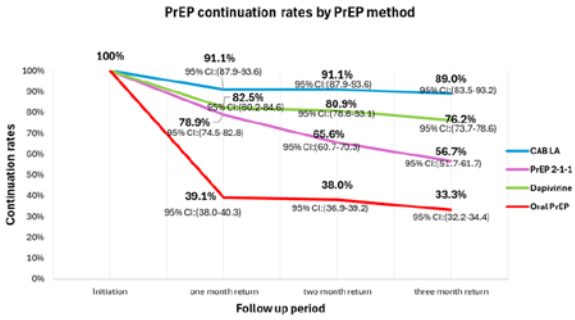
OAC0404

Continuation rates across different pre-exposure prophylaxis (PrEP) modalities of cabotegravir long-acting (CAB-LA), event-driven PrEP (PrEP 2-1-1), dapivirine ring (DPV-R) and oral PrEP: evidence from Zimbabwe

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Background: Pre-exposure prophylaxis (PrEP) is now widely recognized as a viable HIV prevention method globally. In Sub-Saharan Africa, including Zimbabwe, while PrEP coverage is increasing, continuation rates are low. Recent data from Zimbabwe's Ministry of Health shows about 40% continuation at one month, dropping to less than 30% by the third month. To address low PrEP continuation, the World Health Organization (WHO) has approved various PrEP options beyond oral PrEP. Population Solutions for Health (PSH), in partnership with the Ministry of Health and with USAID support, conducted a study comparing oral PrEP continuation rates with newly introduced alternatives.

Methods: A retrospective cohort study was conducted among high-risk key populations of Adolescent girls and young women (AGYW), Female Sex workers (FSW), and Men who have sex with other men (MSM) eligible and enrolled across each PrEP modality per WHO guidelines between May 2023 and December 2025. Data were collected using an electronic record management system (Bahmni) and exported into STATA 17 for cleaning and analysis. Cohort analyses were conducted calculating PrEP continuation rates at one, two- and three months following initiation. Further, 95% confidence intervals were plotted around the point estimates for statistical significance tests across the different proportions.
Results: A total of 9,609 unique individuals were initiated across the four modalities. The figure below shows continuation rates by PrEP method. CAB-LA had the highest PrEP continuation rates, followed by Dapivirine Ring and PrEP 2-1-1 with oral PrEP having significantly the lowest continuation rates by the third month (p<0.001).



Conclusions: The study showed that PrEP continuation rates differ significantly by PrEP method. The more recent PrEP methods have higher continuation rates and should be scaled up urgently to reduce HIV transmission among high-risk key populations.

OAC0405

PrEP awareness, willingness, and behavioral characteristics of men who have sex with men and transgender individuals in the Philippines: a latent class analysis of the PrEP-APPEAL study

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Background: Despite increasing PrEP enrollment in the Philippines, the number of Filipino men who have sex with men (MSM) and transgender individuals (TGIs) using PrEP remains below the national target. This research examined distinct demographic and behavioral patterns associated with PrEP awareness, willingness to adopt specific PrEP options, and willingness to pay among Filipino MSM and TGIs.

Methods: A total of 1662 Filipino respondents were included from the 2022 multinational cross-sectional PrEP-APPEAL dataset. Latent class analysis (LCA) models were developed using STATA, segmenting the population into distinct subgroups based on associations between key variables (i.e., PrEP awareness, willingness towards various PrEP options (e.g., daily, event-driven, or monthly pills, CAB-LA), willingness to pay, and sexual behaviors (e.g., multiple sexual partners, condom use). Subsequently, multinomial logistic regression was employed to identify significant covariates of class membership.

Results: Among the respondents, 79.6%(1323/1662) were cisgender men, 5.3%(88/1662) self-identified as transgender individuals (men and women), mean age was 29.2 years old (SD=8.00), 17.9%(297/1662) were PrEP-experienced, and 14.0% (297/1662) were currently taking PrEP. LCA revealed three classes of Filipino MSM/TGIs: (1) Unaware and Reluctant (154/1662,9.3%)—with lowest PrEP awareness, lowest willingness to pay, lowest willingness to adopt any PrEP options, and lowest number of sex partners; (2) Informed Condom-Users (1282/1662,77.1%)—with higher PrEP awareness, moderate willingness to daily and monthly oral PrEP but low willingness to CAB-LA, high condom use, and higher number of sex partners; and (3) Enthusiastic Adopters (226/1662,13.6%)—having the high PrEP awareness, substantial willingness to adopt all PrEP options, and highest number of sex partners. The Enthusiastic Adopters were more likely to have previously taken PrEP (RRR=3.64,p<0.001) while the Informed Condom-Users were more likely from urban areas (RRR=1.84,p=0.015).

Conclusions: Person-centered community outreach should prioritize increasing PrEP awareness among the "unaware and reluctant", emphasizing availability of free oral PrEP and education on all PrEP options. For "Informed condom-users", address indirect cost barriers and simplify access to free oral PrEP. Introducing CAB-LA to "Enthusiastic Adopters" with integrated STI test-and-treat programs can mitigate behavioral risks.

Holistic strategies that combine education, accessibility, and PrEP innovations are essential to achieving national PrEP targets among Filipino MSM and TGIs.

OAC05 Purposeful PrEP: New insights on lenacapavir for prevention

OAC0502

Preference for twice-yearly injections vs daily oral pills for HIV PrEP in cisgender men, transgender women, transgender men, and gender nonbinary people enrolled in PURPOSE 2

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Background: Daily oral pre-exposure prophylaxis (PrEP) is efficacious for HIV prevention; however, consistent adherence, a predictor of effectiveness, can be challenging, especially among some populations disproportionately affected by HIV.

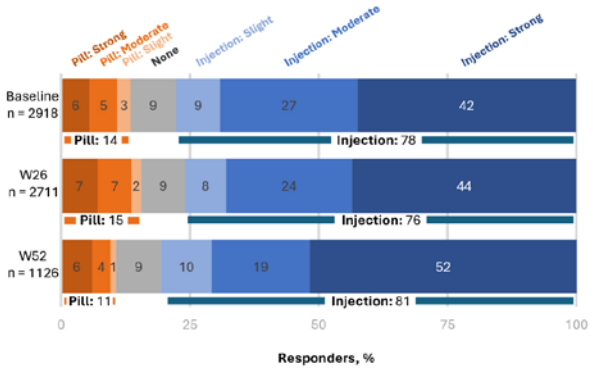
In the Phase 3 PURPOSE 2 trial (NCT04925752), twice-yearly subcutaneous (SC) lenacapavir lowered HIV incidence by 96% compared with background incidence and by 89% compared with oral emtricitabine–tenofovir disoproxil fumarate (F/TDF), with no safety concerns, in cisgender men, transgender women, transgender men, and gender nonbinary people who have sex with partners assigned male at birth.

We present PrEP administration preferences reported among PURPOSE 2 participants.

Methods: Participants were randomized 2:1 in a blinded fashion to receive SC lenacapavir every 26 weeks or oral F/TDF daily, plus an alternative injection/tablet placebo. During injection visits, participants completed an electronic questionnaire about PrEP administration preference (twice-yearly injections or daily pills) and how administration type impacts HIV risk perception and PrEP adherence. Data were collected at baseline (prior to injection), Week (W) 26, and W52. Categorical responses were analyzed descriptively.

Results: Of 3271 treated participants, 2918 and 1126 completed the questionnaire at baseline and W52 (primary analysis), respectively. Over 75% of participants preferred twice-yearly injections over daily pills; 11–15% preferred daily pills (Figure).

Among those with a preference for injections, over half reported a strong preference. Most participants reported that they would feel more protected from HIV (baseline: 66%; W26: 66%; W52: 69%) and be more confident about not missing a dose (baseline: 76%; W26: 73%; W52: 77%) with twice-yearly injections versus daily pills. Results were generally consistent across geographies included in the trial.



Participants who reported a preference for pills or injections were asked their level of preference (slight, moderate, or strong). Percentages may not sum to 100%, or align, due to rounding.
PrEP, pre-exposure prophylaxis; W, week.

Figure. PrEP administration preferences (daily oral pills vs twice-yearly injections) among all participants in the PURPOSE 2 trial.

Conclusions: Most participants preferred and felt more protected from HIV with twice-yearly injectable PrEP, although results highlighted the importance of choice. These data indicate twice-yearly lenacapavir could increase the uptake of, adherence to, and persistence with PrEP among men and gender-diverse people.

OAC0503

Efficacy, safety, and pharmacokinetics of twice-yearly subcutaneous lenacapavir for PrEP among adolescents and young people in the phase 3 trials PURPOSE 1 and PURPOSE 2

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Background: Adolescents and young people are disproportionately affected by HIV globally and experience unique challenges with uptake of, adherence to, and persistence on daily oral HIV pre-exposure prophylaxis (PrEP). PURPOSE 1 (NCT04994509; P1) and PURPOSE 2 (NCT04925752; P2) demonstrated that twice-yearly subcutaneous lenacapavir was efficacious and safe for PrEP. We describe lenacapavir's efficacy, safety, and pharmacokinetics (PK) in participants aged 16-25 years (youth) from both studies.

Methods: P1 and P2 were parallel Phase 3 trials assessing lenacapavir for PrEP in cisgender women aged 16-25 years (P1) and cisgender men and gender-diverse persons aged ≥16 years (P2). We report incident HIV infections and compared a pooled analysis of safety and PK in youth in both studies with that in adults (aged >25 years) in P2.

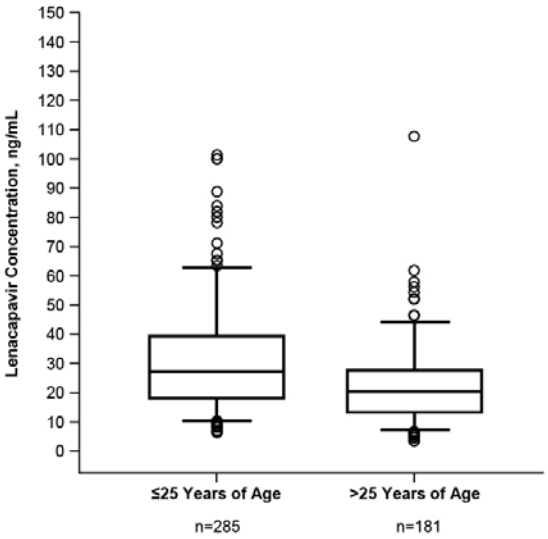
Results: Among youth, two incident HIV infections occurred on lenacapavir (in P2); six incident infections in P2 and all 55 incident infections in P1 occurred in those on daily oral PrEP. The most common adverse events (excluding injection-site reactions [ISRs]) were chlamydial infection, upper respiratory tract infection, and headache (Table).

N (%)	Youth (aged 16-25 years)	Adults (aged >25 years)*
HIV-1 infection	N=2884	N=1429
Lenacapavir†	2	0
Daily F/TAF or F/TDF‡	61	3
Adverse event	N=2892	N=1431
Chlamydial infection‖	329 (11)	171 (12)
Upper respiratory tract infection	319 (11)	100 (7)
Headache	321 (11)	83 (6)
Urinary tract infection	317 (11)¶	23 (2)
Injection-site reaction		
PURPOSE 1	N=2140	
Pain	669 (31)	–
Nodules	1365 (64)	–
Swelling	96 (4)	–
Induration	91 (4)	–
PURPOSE 2	N=762	N=1431
Pain	404 (54)	827 (58)
Nodules	428 (57)	955 (67)
Induration	123 (16)	219 (15)
Erythema	77 (10)	300 (21)
Swelling	49 (7)	100 (7)

*No participants aged >25 years at screening in PURPOSE 1.
†Subcutaneous lenacapavir regimen 927 mg administered every 26 weeks.
‡3547 youth and 743 adults on daily F/TAF or F/TDF.
‖Genitourinary infection in PURPOSE 1, anal infection in PURPOSE 2.
¶307 were from the PURPOSE 1 population of adolescent girls and young women.
F/TAF, emtricitabine/tenofovir alafenamide; F/TDF, emtricitabine/tenofovir disoproxil fumarate.

Table. HIV infections, adverse events, and injection-site reactions in youth vs adults in PURPOSE 1 and PURPOSE 2.

The most common ISRs were nodules, pain, induration, and swelling (and erythema in P2 only). Lenacapavir was well tolerated in youth and adults. Lenacapavir plasma concentrations were generally comparable between youth and adults (Figure).



Participants who became pregnant, received oral lenacapavir bridging, or were diagnosed with HIV-1 were excluded. Black boxes indicate 1st and 3rd quartiles with the median as a horizonal line inside the box; whiskers indicate 5th and 95th percentiles. Values BLQ were treated as 0 for summary statistics.

[a]Lenacapavir administered as subcutaneous injection 927 mg.

[b]Category for ≤25 years of age includes PURPOSE 1 and PURPOSE 2 participants; category for >25 years of age includes only PURPOSE 2 participants.

BLQ, below the limit of quantitation; C_{trough}, trough concentration.

Figure. Boxplots of lenacapavir[a] plasma concentrations at week 26 (C_{trough}) in the randomized blinded phase of the PURPOSE 1 and PURPOSE 2 studies (youth vs adults)[b].

Conclusions: Twice-yearly subcutaneous lenacapavir had high efficacy, favorable safety, and no clinically relevant PK differences in youth and adults, supporting the potential of lenacapavir to address challenges with daily oral PrEP and help reduce new HIV infections among youth.

OAC0504

Inclusion of pregnant and lactating people in the PURPOSE 1 study: efficacy, safety, and pharmacokinetics

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Background: Pregnant and lactating people (PLP) are disproportionately vulnerable to HIV-1 acquisition but historically excluded from Phase 3 HIV trials. PURPOSE 1 (NCT04994509) was the first pre-exposure prophylaxis (PrEP) trial to intentionally include PLP to address their urgent unmet need for HIV prevention options.

Methods: We engaged community stakeholders, regulatory agencies, ethics committees, and maternal/pediatric health experts to responsibly include PLP in PURPOSE 1. To respect autonomy and reproductive choice, contraception was offered but not required; participants who became pregnant could remain on study drug following additional informed consent. We describe pregnancy outcomes, adverse events (AEs), and HIV infections in PLP randomized to twice-yearly subcutaneous lenacapavir up to the primary analysis. Lenacapavir plasma concentrations in PLP during each trimester/postpartum were compared with non-PLP using a population pharmacokinetics (popPK) model. Lenacapavir concentrations in breastmilk and infant plasma were measured (smaller subset).

Results: Of 2140 participants receiving lenacapavir, 184 participants had 193 pregnancies, of which 88 (45.6%) were ongoing. The 105 pregnancies with outcomes included 52 live births (49.5%) and 53 losses (50.5%), including 30 induced/elective abortions (28.6%), 20 spontaneous abortions (19.0%), and 3 stillbirths (2.9%). Maternal pregnancy-associated AEs were uncommon, with gestational hypertension/pre-eclampsia (n=4) and hyperemesis gravidarum (n=3) most reported. No HIV infections occurred in PLP receiving lenacapavir. In the PopPK analysis, predicted lenacapavir exposure was not statistically significantly different by pregnancy trimester or postpartum status compared with non-PLP (Table). Lenacapavir was pres-

ent in breastmilk (median milk-to-plasma ratio: 0.63 [n=8 matched pairs]); however, lenacapavir exposure in infant plasma was minimal (median breastfed-infant-to-mother plasma ratio: 0.05 [n=11 matched pairs]).

	Did not become pregnant	Non-pregnant period	First trimester (EGA 1-84 days)	Second trimester (EGA 85-189 days)	Third trimester (EGA > 189 days)	Postpartum (within 13 weeks after pregnancy)[b]
	Mean (% CV) [N]	Mean (% CV) [N]	Mean (% CV) [N]	Mean (% CV) [N]	Mean (% CV) [N]	Mean (% CV) [N]
Day 1 to Week 26[c]						
C_{max}, ng/mL	73.7 (49) [245]	73.0 (46) [100]	74.6 (44) [49]	74.2 (61) [4]	85.2 (–) [1]	57.2 (34) [9]
C_{trough}, ng/mL	30.5 (45) [245]	30.2 (46) [86]	27.8 (41) [43]	29.5 (40) [38]	21.7 (69) [4]	30.3 (44) [12]
Week 26 to Week 52[d]						
C_{max}, ng/mL	83.5 (45) [205]	87.2 (32) [45]	82.5 (36) [29]	78.1 (32) [25]	93.4 (40) [8]	90.6 (39) [8]
C_{trough}, ng/mL	37.0 (46) [205]	33.2 (40) [30]	34.8 (53) [25]	34.3 (42) [33]	33.3 (42) [17]	42.4 (54) [10]

[a]Includes participants who had PK samples analyzed as part of the PopPK cutoff date (February 28, 2024).

[b]Following childbirth or pregnancy termination.

[c]Participants who took both oral lenacapavir 600 mg loading doses within 72 hours and had a lenacapavir 927 mg dose on Day 1 were included. C_{trough} = Week 26.

[d]Participants who took both oral lenacapavir 600 mg loading doses within 72 hours and had a lenacapavir 927 mg dose on Day 1, had an on-time SC lenacapavir 927 mg dose at Week 26 (26 weeks ± 2 weeks), and did not take the oral bridging regimen between Day 1 and Week 52, were included. C_{trough} = Week 52.

% CV, percentage coefficient of variation; C_{max}, maximum concentration; C_{trough}, trough concentration; EGA, estimated gestational age; pop(PK), (population) pharmacokinetics; SC, subcutaneous.

Table. Summary of model-predicted lenacapavir exposures stratified by pregnancy groups[a].

Conclusions: Lenacapavir was efficacious, safe, and well tolerated, with no clinically significant exposure differences in PLP and minimal exposure in breastfed infants. Proactive evaluation of lenacapavir efficacy, safety, and PK data in PLP can support accelerated access to lenacapavir for PLP who need or want PrEP.

OAC0505

Estimation of the counterfactual HIV incidence in the PURPOSE trials

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Background: PURPOSE 1 (NCT04994509;P1) and PURPOSE 2 (NCT04925752;P2) evaluated twice-yearly lenacapavir for HIV pre-exposure prophylaxis. These trials employed a novel counterfactual HIV-incidence design comparing observed HIV incidence among participants receiving investigational agents to estimated background HIV incidence (bHIV) using a recent infection testing algorithm (RITA) in a pre-randomization cross-sectional cohort of screened participants. We report bHIV in P1/2, estimated by a RITA, with varying parameters and additional counterfactual estimates.

Methods: Samples from participants diagnosed with HIV during screening underwent testing for recent infection; bHIV was calculated using a RITA with recency assay parameters reported in Kassanjee 2016 (mean duration of recent infection and false recent rate based on weighted average of included subtypes; T=2 years).
Multiple counterfactual estimates of HIV incidence were also considered: observed and RITA-estimated incidence in the ECHO trial, predicted HIV incidence using modified VOICE score among participants (P1) and predicted HIV incidence calculated using emtricitabine-tenofovir disoproxil fumarate (F/TDF) efficacy-adherence relationship and correlation with rectal gonorrhea incidence (P2).
Additionally, bHIV was compared using varying recency assay parameters.

Results: Estimated bHIV in P1 was 2.41/100 person-years (py; 95% confidence interval 1.82,3.19) and 2.37/100py (1.65,3.42) in P2 [Figure]. Predicted HIV incidence in P1 using modified VOICE score was 9.35/100py (8.11,11.09); observed HIV incidence in ECHO was 4.77/100py (4.24,5.35). Predicted HIV incidence in P2 ranged from 2.87/100py (1.09,6.72) using the F/TDF efficacy-adherence relationship to 6.19 (3.53,8.85) using rectal gonorrhea incidence. Varying RITA parameters had minimal impact on the bHIV estimate.

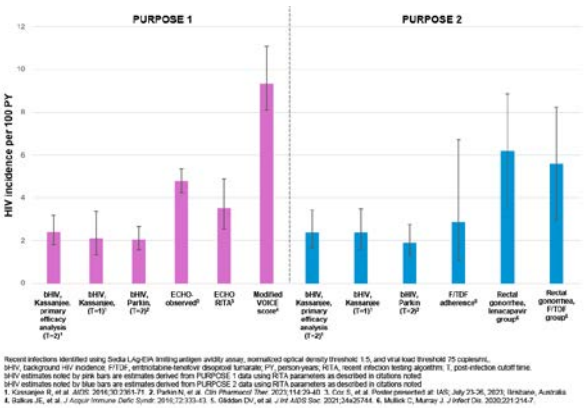


Figure. Comparison of estimated background HIV incidence and 95% CI using RITA and alternative counterfactual estimates in PURPOSE 1 and PURPOSE 2.

Conclusions: RITA-based bHIV for P1/2 were consistent with conservative incidence estimates. Of additional counterfactual estimates evaluated, the F/TDF efficacy-adherence estimate was most similar to RITA-based bHIV. Modified VOICE score and rectal gonorrhea correlation yielded higher HIV-incidence estimates, which may be explained by calibration of these methods earlier in the HIV epidemic. These findings support RITA-based bHIV estimates as comparators in future HIV prevention trials.

OAC06 Big money and the big picture: Funding and HIV epidemiology

OAC0602

If funding falls short: projecting the impact of international HIV budget cuts across 26 countries

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Background: International funding for HIV has been critical in reducing new HIV transmissions and deaths. While treatment financing is commonly prioritized domestically, HIV prevention and testing, especially for key populations, remain more vulnerable to cuts in international funding. Reductions in international aid of 10%-70% (19% weighted average) have been announced commencing in 2026, in the five countries that account for over 90% of international HIV funding. We investigated the impact of these funding reductions on the HIV epidemic in 24 countries through mathematical modelling.

Methods: We used existing, country-validated Optima HIV models in 24 countries (Albania, Armenia, Azerbaijan, Belarus, Bhutan, Cambodia, Colombia, Cote d'Ivoire, Eswatini, Georgia, Kazakhstan, Kenya, Kyrgyzstan, Malawi, Malaysia, Moldova, Mongolia, Mozambique, South Africa, Sri Lanka, Tajikistan, Uganda, Uzbekistan, Zimbabwe). We compared a status quo scenario, with most recent HIV spending continued from 2024-2040, to scenarios with 18.8% cuts to international funding from 2026. Country-specific impacts of funding cuts on HIV prevention and testing program coverage were derived based on proportion of international funding, with lower bounds assuming equal spending reductions across all programs and overheads and upper bounds assuming all spending reductions directly impacted service coverage. Treatment and facility-based testing were assumed to continue through domestic funding. We projected HIV incidence, HIV-related deaths and cascade outcomes to 2040.

Results: Across the 24 countries considered, a 19% reduction in international funding could lead to a 10-64% reduction in HIV prevention and testing program coverage, a cumulative increase of 14-68% in new HIV transmissions and a 4-13% in HIV-related deaths across 2026 to 2040. In addition, there was a 4-21% increase in total people living with HIV and a 2-16% increase in people on ART by 2040 (despite lower diagnosis rates), which could lead to higher long-term domestic financial costs. Impacts were greatest in countries with a higher percentage of international funding, and those with increasing incidence among key populations.

Conclusions: Persistent reductions in international HIV funding could significantly reverse progress by 2040, disproportionately affecting key and vulnerable populations. Establishing sustainable funding mechanisms to safeguard prevention, testing, and care programs is critical to reducing HIV transmission and mortality.

OAC0603

How have policies influenced PrEP uptake? An analysis of 139 countries and 33 African countries

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Background: Oral PrEP is at varying stages of scale-up globally, as longer-acting PrEP products enter the market in limited supply. This analysis evaluates which policies significantly enable PrEP uptake to understand how to expand access to PrEP options.

Methods: Data on cumulative PrEP initiations (dependent variable) for 139 countries, as of September 2024, was collected from AVAC's Global PrEP Tracker. Data on the status of 54 policies (independent variable (IV)) related to HIV testing and prevention, structural changes, and health systems across all 139 countries, as of July 2024, was collected from the HIV Policy Lab. Multiple and individual regressions, using RStudio (2024.12.0+467), assessed the significance of policies altogether and individually (p=0.05). A separate analysis was done for 33 African countries. Correlation analyses of IVs assessed multicollinearity using the Pearson coefficient. Ridge regression analysis assessed if multicorrelated variables should be eliminated from the model to remove confounding in multiple regressions.

Results: The global analysis showed that eight policies on task-shifting (1), decriminalizing same-sex sex (3), decriminalizing HIV exposure (3), and HIV self-testing (1) were significantly associated with PrEP uptake in individual regressions. Multiple regression showed only one policy on task-shifting is significantly associated with PrEP uptake.
The analysis of African countries showed that four policies decriminalizing HIV exposure (2), prohibiting compulsory HIV testing (1), and loosening age restrictions on testing and treatment (1) were significantly associated with PrEP uptake in individual regressions. None were significantly associated with PrEP uptake in multiple regression.
The discrepancy in the individual and multiple regressions indicates multicollinear IVs. Correlation analyses confirmed that at least four pairs of policies are highly correlated in enabling PrEP uptake. Ridge regression results showed that these same variables were very strongly contributing to the predictive power of the model and cannot be eliminated.

Conclusions: Policies found to significantly enable PrEP uptake making access easier, reduce discrimination, and align with user preferences. While the effect of individual policies is reduced when considering several altogether, they influence PrEP uptake both individually and systemically. Differences in policies that significantly enable PrEP uptake at global and regional levels imply that context affects which policies should be implemented.

OAC0604

Evaluating global PrEP implementation progress over time: an analysis of the PrEP-to-Need ratio from 2018-2023 across eleven countries with high HIV incidence and/or burden

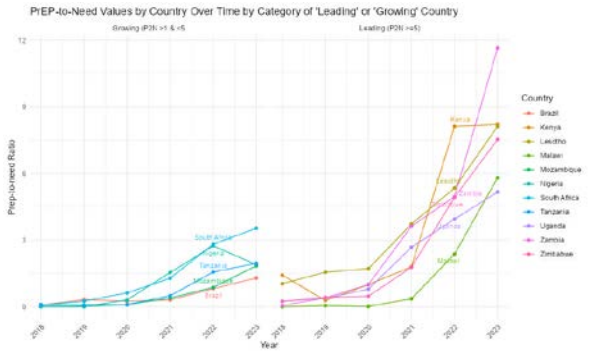
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Background: Pre-exposure prophylaxis (PrEP), which is highly effective at preventing HIV, could end the HIV epidemic if used at scale effectively and by those who need it. Despite market availability for at least 5-10 years globally, implementation has varied, with substantial differences between countries in terms of meeting in-country PrEP need. Comprehensive data comparing countries over time can unlock critical insights in implementation facilitators and challenges.

Methods: Using UNAIDS data on HIV incidence and AVAC data on PrEP initiations (2018-2023), we calculated the PrEP-to-Need ratio (PNR) among all countries with available data (higher = greater PrEP coverage than HIV incidence). We categorized the PNR as leading (>5), growing (1.00-4.99), and emerging (<1.00) based on prior work by AVAC. Among countries with high PrEP volumes (initiations >100,000 cumulative) in 2023, we compared the PNR ratio over time by PNR category.

Results: Of 111 countries with PrEP-to-need data available, eleven were high PrEP volume countries: six were leading (Kenya, Lesotho, Malawi, Uganda, Zambia, and Zimbabwe) and five were growing (Brazil, Mozambique, Nigeria, South Africa, Tanzania); none were emerging. While HIV incidence was stable or decreasing across all countries over time, increases in PrEP initiations drove the PNR. Transition to leading took an average of 4.4 years; for growing countries, average time from emerging to growing was 3.8 years.



Conclusions: Leading countries were characterized by consistent and sustained increases in PrEP initiations per year. Countries in the growing category must increase their PrEP delivery substantially and among populations at substantial HIV acquisition risk to become leading. Targeting a minimum of five PrEP initiations among those with PrEP need per projected incident HIV case will promote higher PNR. Data in aggregate form may mask epidemics in key populations (KPs); specific, disaggregated coverage data for key populations needed to further characterize progress in meeting key PrEP goals among KPs.

OAC0605

Viral load suppression at first viral load after shifting from six to three months post-ART initiation: a retrospective analysis of early outcomes in the South African public sector HIV program

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Background: In April 2023, South Africa updated anti-retroviral (ART) guidelines to advance the first viral load (VL) from six to three months post-initiation. This aimed to leverage Dolutegravir's faster suppression rates and enable earlier enrolment into differentiated service delivery (DSD) models and adherence support. We evaluated the impact of this guideline change on VL suppression rates, and DSD enrolment and timing in four South African districts.

Methods: We analysed ART initiations May-December 2023, excluding those recorded as deceased, transferred out or with a baseline VL (suggesting prior treatment and/or re-engagement) but including those who may have disengaged during follow-up (168 days following guideline-mandated first VL timing). VL<200 copies/ml, VL suppression (<50 copies/ml), and DSD enrolment were analyzed using logistic regression. DSD enrolment timing was assessed using a Cox proportional hazards model, adjusting for age, gender, and district.

Category	Early (29–77 days)	3 months (78–112 days)	3–6 months (113–161 days)	6 months (162–196 days)	Late (>196 days)
VL <200 copies/ml (%)	1671 (80.07%)	11813 **(87.75%)**	3814 (83.33%)	3194 **(86.23%)**	1833 (81.07%)
Adjusted OR (p-value, 95% CI)	0.57 (<0.01, 0.51-0.64)	Ref	0.73 (<0.01, 0.67-0.80)	0.93 (0.18, 0.83-1.03)	0.66 (<0.01, 0.58-0.74)
Suppressed VL <50 copies/ml (%)	1191 (57.07%)	8758 **(65.06%)**	2946 (64.37%)	2476 **(66.85%)**	1451 (64.18%)
Adjusted OR (p-value, 95% CI)	0.71 (<0.01, 0.64-.078)	Ref	0.99 (0.89, 0.93-1.07)	**1.13 (<0.01, 1.05-1.22)**	1.02 (0.63, 0.93-1.13)
Suppressed enrolled in DSD (%)	473 (39.71%)	4322 (49.35%)	1109 (37.64%)	895 (36.15%)	412 (28.39%)
Adjusted OR (p-value, 95% CI)	0.68 (<0.01, 0.60–0.77)	Ref	0.63 (<0.01, 0.58–0.69)	**0.59 (0.01, 0.53–0.64)**	0.42 (<0.01, 0.37–0.48)
Suppressed median time to DSD enrolment (days)	143	**162**	196	**252**	306
Adjusted HR (p-value, 95% CI)	1.12 (0.02, 1.02-1.24)	Ref	0.65 (<0.01, 0.61-0.70)	0.44 (<0.01, 0.40-0.47)	0.36 (<0.01, 0.32-0.39)

Table 1: Viral Suppression and DSD Enrolment by VL Timing

Results: Among 26,091 individuals initiating ART with a VL, 65.1% achieved VL suppression and 87.8% had VL<200 copies/ml with a three-month VL, compared to 66.9% and 86.2% with a six-month VL. Adjusted analysis showed that clients with VLs taken at six months had 13% higher odds of suppression (p-value<0.01) and 41% lower odds of DSD enrolment compared to those at three months. Median time to enrolment was 162 days for clients with suppressed VLs taken at three months compared to 252 days for six months.

Conclusions: Advancing the first VL to three months enabled earlier DSD enrolment for suppressed ART initiators, supporting retention efforts. Although suppression rates were slightly lower at three compared to six months, earlier VL also enables expedited identification of clients who could benefit from targeted adherence support and require follow-up testing. Maximizing the benefits of an earlier VL requires promptly offering DSD or multi-month dispensing to all suppressed clients and providing proactive, early support for unsuppressed clients.

OAD01 Centring mental health in the HIV response

OAD0102

Mental health challenges and sexual health resource access among LGBTQ+ young people in Peru: findings from an online national survey

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Background: The purpose of this study is to investigate how clinically significant levels of depression (PHQ-2), anxiety (GAD-2), and lifetime suicidal ideation are associated with access to sexual health resources among LGBTQ+ young people (ages 14-24) in Peru.

Methods: Data were drawn from a national mental health survey of LGBTQ+ young people in Peru (n=4,643) conducted from October-December 2022 with funding and collaboration from The Trevor Project (USA) and ethical approval from INMENSA (Peru). Logistic regression was used to assess the association between mental health indicators (depression, anxiety, and lifetime suicidal ideation) and access to three sexual health resources: 1) Pre-exposure prophylaxis (PrEP), 2) HIV/STI treatment/consultation, and 3) condoms. Each outcome was dichotomized comparing: wanted but did not receive versus wanted and received resource. Adjusted odds ratios (aOR) were calculated, controlling for key socio-demographic variables.

Results: Most of the 4,643 respondents were 18 years or older (62.5%), 16.1% were transgender or non-binary, 48.9% identified as bisexual, and 28% as gay or lesbian. Most had clinically significant depression (58.2%), anxiety (54.6%), and 73.4% endorsed lifetime suicidal ideation. Some wanted each sexual health resource: PrEP 40.6%, HIV/STI treatment/consultation 47.7%, and condoms 55.4%. In the PrEP model, individuals with a history of suicidal ideation were 43% less likely to access PrEP.

In the HIV/STI treatment/consultation model, no mental health variables were significantly associated with access. In the condom access model, anxiety was associated with a 25% increase, and depression to a 25% decrease in the likelihood of condom access (Table 1).

Model 1: n=1447, 17% accessed PrEP		Model 2: n=1720, 30% accessed STI/HIV treatment or consultation		Model 3: n=1986, 40% accessed condoms	
	aOR (95% CI)		aOR (95% CI)		aOR (95% CI)
Depressive symptoms (Ref: No)	1.06 (0.74-1.54)	Depressive symptoms (Ref: No)	1.11 (0.84, 1.46)	Depressive symptoms (Ref: No)	**0.75 (0.60-0.95)**
Symptoms of anxiety (Ref: No)	1.24 (0.87-1.78)	Symptoms of anxiety (Ref: No)	1.07 (0.82-1.40)	Symptoms of anxiety (Ref: No)	**1.25 (1.00-1.58)**
Lifetime Suicide Ideation (Ref: No)	**0.57 (0.39-0.83)**	Lifetime Suicide Ideation (Ref: No)	0.77 (0.57-1.03)	Lifetime Suicide Ideation (Ref: No)	0.90 (0.70-1.16)

Note: Bolded aOR and 95% CI reflects statistically significant associations (p < 0.05). All models adjusted for age, sex assigned at birth, gender, region of residence, migration status, education, employment, and socioeconomic status. Depression was measured using the PHQ-2 and anxiety using the GAD-2; both measures were dichotomized, with a "yes" indicating a score of ≥3 (range: 0-6), which reflects clinically significant symptoms.

Table 1: Models Examining the Associations between Sexual Health Access (PrEP, STI/HIV Treatment, Condoms) and Mental Health Indicators.

Conclusions: Our findings highlight mental health needs among LGBTQ+ Peruvians and their potential connection with sexual health resource access. Suicidal ideation was associated with impeded PrEP access, while anxiety and depression were associated with differential condom access. These results emphasize the need for integrated mental health and sexual health services to address the unique needs of LGBTQ+ young people, particularly those facing severe mental health challenges.

OAD0103

Addressing alcohol use to improve mental health among men living with HIV (LWH): impact of the Kisoboka intervention on depressive symptoms among fisherfolk in Uganda

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Background: Harmful alcohol use and depression are interrelated barriers to optimal ART adherence. Kisoboka, a multilevel intervention aimed at reducing alcohol use and improving HIV treatment outcomes through eco-

nomic strengthening, unexpectedly reduced depressive symptoms. We examined whether its impact on depression varied by baseline alcohol use.

Methods: We conducted a pilot randomized controlled trial to evaluate Kisoboka. We enrolled fisherfolk men, aged 18-50, LWH, reporting suboptimal adherence and recent hazardous alcohol use, between January 2021 and March 2022. Linear generalized estimating equations (GEE) were built to examine potential moderation of intervention effect on depressive symptoms (measured using the CESD) over time (baseline, 3 and 6 months follow-up) in adjusted models using a three-way interaction term (time*arm*baseline AUDIT).

Results: Analysis of 160 participants and 466 observations revealed a significant three-way interaction between continuous AUDIT score, time, and study arm on depressive symptoms (B = -0.0970, 95% CI -0.1555, -0.0386, p=0.001). To illustrate this effect (Figure 1), we plotted the probability of depressive symptoms over time for participants with higher (+1 SD) and lower (-1 SD) baseline AUDIT scores by study arm. Among those with higher AUDIT scores, the probability of depressive symptoms in the intervention decreased from 57% to 3% at 6 months, while it increased in the control arm from 37% to 66%. For participants with lower AUDIT scores, the probability of depressive symptoms declined in the intervention (27% to 2%) and slightly improved in the control arm (44% to 33%).

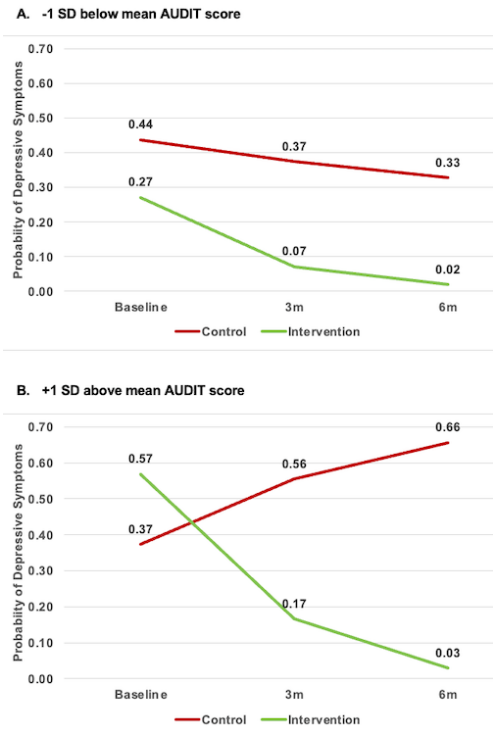


Figure 1A-B. Probability of depressive symptoms by time and condition.

Conclusions: The intervention's mental health benefits were most pronounced among those with higher baseline alcohol use. These findings suggest that addressing alcohol use may play a crucial role in improving mental health outcomes. Furthermore, the intervention's impact on depressive symptoms varied by alcohol use severity, highlighting the potential need for tailored approaches to maximize effectiveness across different risk profiles.

OAD0104

The double burden: a cross-sectional study of the intersection between mental health and access to HIV Prevention services for female sex workers in internally displaced camps in Calabar, Nigeria

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Background: Female sex workers (FSWs) are vulnerable to HIV acquisition, occupational discrimination, and mental health challenges. However, understanding the intersection of mental health and their access to HIV prevention services will guide policymakers in improving accessibility of FSWs in internally displaced persons (IDP) camps having a dual burden.

This study assessed the relationship between mental health and accessibility of HIV prevention services for FSWs in IDP camps in Calabar, Nigeria.

Methods: A cross-sectional study was conducted on 187 randomly selected FSWs in IDP camps in Calabar (Dec 2024-Jan 2025). A three-part validated 17-item questionnaire measuring mental health status, perceived discrimination, and accessibility to HIV prevention services was used to collect data. Data analysis involved frequencies, cross-tabulations, and chi-square tests using IBM SPSS (version-27), with significance set at p<0.05

Results: Out of 187 FSWs, 108 participated in the study. Most participants, 25(23.1%), were aged 25-34 and 39(36.1%) had worked for >6 years. There were 43(39.8%), and 42(38.9%), respondents who *sometimes or often,* respectively, felt sad, down, or hopeless in the past month. Substance use was reported as the primary coping strategy for stress (n=91, 84.3%).

Occupational discrimination was prevalent, with 63.9% and 19.4% reporting *frequent* and *occasional* experiences, respectively. HIV testing [79(73.1%)] and condom use [65(60.2%)] were common, while PrEP access was low, 9(8.3%). Among condom users, 50.8% *sometimes* felt sad, while 44.2% of non-users *often* felt sad, linking mental health and access.

Age influenced access to services (*p=0.001*), with condom use highest in 25-34-year-olds (29.2%), but lowest in those <18 years (10.8%). Likewise, HIV testing was more accessed by 25-34 years (27.8%) and <18 years (26.6%), and least in >45 years (8.9%). Respondents older than 45 years (83.3%,) reported not accessing any HIV prevention services. Perceived discrimination correlated with poor access, especially among those with over 6 years' experience; 83.3% reported no access (*p=0.001*).

Conclusions: Mental health, perceived discrimination, and access to HIV prevention services intersect in FSWs living in IDP camps, especially in older, more experienced populations, suggesting a need for age and experience-specific interventions. Future research should investigate underlying factors contributing to low service utilization in older populations.

OAD0105

Depression, suicidal ideation, and HIV risk among young mothers in South Africa

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Background: The burden of mental illness in African countries is rising, driven by poverty, unemployment, and limited upward mobility. Many women face high rates of intimate partner violence (IPV), unplanned pregnancies, and motherhood-related stresses, exacerbating mental health challenges. Poor mental health can lead to reduced quality of life, disability, and, in severe cases, death. Depression and suicidal ideation are linked to high-risk behaviors, including sexual activities that increase HIV risk. Despite these dynamics, few studies have examined mental health and HIV risk in African mothers.
Methods: This study examined associations between depression, suicidal ideation, and HIV risk behaviors among pregnant and/or parenting young South African women. Data were collected from unemployed women aged 18–24 years as part of an evaluation in KwaZulu-Natal (June–September 2018).
The analysis included those reporting sexual activity in the past year. Baseline data were analyzed using Poisson regression, with primary exposures of past year (i) prolonged sadness and (ii) suicidal ideation.
The composite HIV risk outcome included transactional sex, partners with unknown HIV/STI status, and substance-influenced sex. Models adjusted for age, IPV, and HIV serostatus.
Results: We analyzed data from 1,026 participants. Median age was 22 years (IQR: 21–23), with a mean of 1.1 children. Three in ten reported ever drinking alcohol (29.7%). Past year IPV was reported by 9.1% and HIV prevalence was 8.7%. Two percent (n=17) were currently pregnant, and most (97%) indicated their most recent pregnancy was unplanned. One-third (34%) reported prolonged sadness, while 10% reported suicidal ideation. In unadjusted models, prolonged sadness and suicidal ideation in the past year were associated with increased composite HIV risk, with PRRs of 2.11 (95% CI: 1.75–2.52) and 1.99 (95% CI: 1.58–2.47), respectively. Adjusted models showed HIV risk PRRs of 1.79 (95% CI: 1.41–2.27) for sadness and 1.67 (95% CI: 1.24–2.27) for suicidal ideation.
Conclusions: Depression and suicidal ideation are critical challenges for unemployed pregnant or parenting young South African women. Antenatal, postnatal, well-baby, and HIV care offer crucial opportunities for mental health screening and referral, which can reduce HIV risk and improve long-term health for both mothers and children.

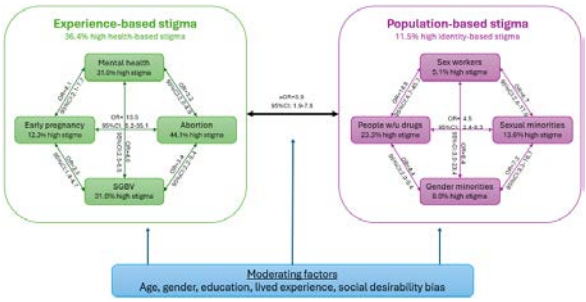
OAD02 Health equity in challenging times: Threats and opportunities

OAD0202

High stigma in one area strongly predicts high stigma in others: testing the idea of a 'universal' approach to anti-stigma intervention to improve healthcare for key populations

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Background: While traditional anti-stigma intervention has used education around specific topics (e.g., sexuality), some contend this topical approach is ineffective for healthcare workers already overwhelmed with information. Instead, theorists argue for stigma as a universal concept best addressed through interventions promoting overall acceptance and equity.
To explore the possibility of a universal anti-stigma intervention, our study examined different stigmas among healthcare workers in the Kenyan city of Mombasa. Specifically, we tested the hypothesis that high stigma in one domain would predict high stigma in others.
Methods: A prospective cohort of healthcare workers from six public clinics in Mombasa was established (June 2023-December 2024). Every 3-6 months, participants completed a survey of attitudes towards stigmatized topics. Scale scores were standardized from 1 (low stigma) to 5 (high stigma), and a factor analysis with varimax rotation investigated potential stigma groupings.
Multivariable regression analyses investigated associations between different stigmas while controlling potential confounders (i.e., age, education, social desirability).
Results: Over four waves,925 data points were collected (n=395). The factor analysis defined two stigma groups: experiences (i.e., mental health, abortion, early pregnancy, sexual violence; λ=2.45) and populations (i.e., sex workers, people who use drugs, sexual and gender minorities; λ=2.20). Strong two-way associations were observed between all topics. For example, high sex work stigma predicted high sexual minority stigma (aOR=6.7, 95%CI:2.6-17.6), while stigma towards people who use drugs predicted gender minority stigma and *vice versa* (aOR=4.4, 95%CI:2.0-5.5). Even across factors, strong associations were observed: in a composite measure, high experience-based stigma was associated with a 3.9 times greater likelihood of high population stigma (aOR=3.9, 95%CI: 1.9-7.8).



Conclusions: Study results support our hypothesis, suggesting stigma can be understood as a ‚universal' experience. Anti-stigma interventions should focus on promoting acceptance overall rather than engaging with specific topics, which offers exciting possibilities to improve healthcare for key populations and beyond.

OAD0203

Promoting equity for pregnant adolescents in research: ethics guidance from the PREPARE working group

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Background: Exclusion of pregnant adolescents from clinical HIV research participation has led to significant evidence gaps in the safety, effectiveness, and uptake of HIV treatment and prevention strategies for this population. These gaps underscore the urgent need for ethics guidance to support the inclusion of pregnant adolescents in clinical HIV research. Inclusive research is essential to inform safe and effective treatment and prevention strategies and improve health outcomes for pregnant adolescents and their children.
Description: To address this urgent need, the PRomoting Equity for Pregnant Adolescents in REsearch (PREPARE) Working Group, an international and interdisciplinary team of 44 experts, has developed actionable ethics guidance for the equitable and responsible inclusion of pregnant adolescents in clinical HIV research. This guidance incorporates diverse expertise and perspectives from bioethicists, adolescent and HIV researchers, policy experts, and adolescents with lived experience.
Lessons learned: The guidance comprises nine recommendations based on a reproductive justice framework, highlighting the ethical principles of respect, access, and protection.
Per the principle of respect:
1. Pregnant adolescents should be central to decisions about research participation;
2. Studies must address the full range of their reproductive options;
3. Their lived experiences should inform the design, conduct, and reporting of research.
Per the principle of access:
4. Trials involving pregnant adults should be designed to include pregnant adolescents unless exclusion is strongly justifiable;
5. Age alone should not determine inclusion; decisions should rely on scientific rationale, public health priorities, and cultural context;
6. Post-trial access to therapeutics must be ensured.
Per the principle of protection:
7. Exclusion harms must be considered during study reviews;
8. Innovative study designs, such as phased inclusion, should be utilized where safety concerns would typically result in exclusion;
9. Study design should consider what specific data are needed to determine safety among pregnant adolescents.
Conclusions/Next steps: Pregnant adolescents require earlier and intentional inclusion in research to ensure timely access to the benefits of advancements in HIV treatment and prevention. Adopting these recommendations will support their ethical inclusion in research, promote responsible study design, ensure access to appropriate therapies, and improve health outcomes for both pregnant adolescents and their children.

OAD0204

We fear the day this bill is passed: The Criminalization of LGBTQ+ and its effect on public health efforts in Ghana

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Background: The criminalization of lesbians, gay, bisexual, transgender, and queer (LGBTQ+) individuals remains a global issue with discriminatory laws, stigma and violence affecting their well-being. Health and human rights. Ghana is currently in the process of criminalizing LGBTQ+. A bill proscribing LGBTQ+-related activities was proposed to the parliament of Ghana in 2021. The bill proposes to promote proper human sexual rights and family values whiles proscribing all
LGBTQ+-related activities. The bill as it stands now prohibits all forms of advocacy for LGBTQ+. Thus making it illegal to provide HIV prevention services to LGBTQ+. The prevalence of HIV in Ghana is 1.3%, compared to 18.1% among men who have sex with men (MSM). We sought to investigate the effects of LGBTQ+ criminalization on HIV prevention and treatment efforts in Ghana.
Description: We elicited respondents' perceptions of the effect the bill will have on MSM and HIV-related activities in May 2024. We conducted 26 semi-structured in-depth qualitative interviews with peer social networks of MSM within Greater Accra Region. A thematic analytical framework was used to analyze audio recordings.
Lessons learned: The major findings indicated that MSM will be less willing to access HIV prevention services from drop-in centers due to fear of being arrested. It was indicated that stigma and discrimination currently discour-

age the majority of MSM from accessing HIV prevention services. Further criminalization of LGBTQ+-related activities will worsen the situation. Respondents also reported that the majority of MSM have gone underground out of fear of penalization due to their
sexual behavior. This poses a challenge for public health organizations to implement targeted intervention and outreach programmes for MSM.

Conclusions/Next steps: Laws criminalizing all forms of LGBTQ+ advocacy can fuel the HIV epidemic as they dissuade MSM from seeking treatment. Penalization of same-sex intercourse also contributes to a cycle of stigma and discrimination.
Such a hostile legal and social environment will exacerbate mental health issues among LGBTQ+ individuals, leading to higher rates of stress, anxiety and depression. The criminalization of LGBTQ+ in Ghana will significantly impact the country's HIV response.

OAD0205

New HIV diagnoses, social determinants of health, and systemic racism by US region 2013 to 2021

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Background: The social determinants of health (SDOH) and systemic racism are drivers of health inequities but remain under investigated in relation to HIV acquisition across geographic regions.
We aim to assess the effect of SDOH inequities and systemic racism on new HIV diagnosis rates across the five major regions of the United States.

Methods: Publicly available data (2013-2021) from AIDSVu and ACS were merged using unique, county-level FIPS codes (i.e., geographic identifier). County-level data were extracted and aggregated to the regional level. A generalized estimation equation model was run, within each region, to explore the associations between the SDOH, systemic racism, and new HIV diagnoses across time. Variables included in the final model were age group among men; race/ ethnicity; poverty; less than a high school degree; no insurance coverage; and measures of residential segregation: Gini, Delta, Spatial Proximity Index.

Results: Overall, 3,013 counties across the United States were included in the analysis (i.e., Deep South=712, South=636, North=237, West=398, Midwest=1,030). Prior to the COVID-19 pandemic, county-level rates of new HIV diagnoses were highest in the Deep South, declining in the North and South, and rising in the West. New diagnoses fell in all regions during the pandemic (2019-2020), reflecting service interruptions, and have since began rising (2021), nearing pre-pandemic levels.
By region, counties with a higher proportion of men aged 35-54 (Deep South: IRR=1.07, West: 1.06, Midwest: 1.14, North: 0.96; $p \leq 0.05$) and Black populations (Deep South: 1.45, South: 1.46, North: 1.17, West: 1.49, Midwest: 2.62; $p \leq 0.001$) were associated with higher rates of new HIV diagnoses. Systemic racism was found to be positively associated with new HIV diagnoses in all regions but the Midwest. Two interaction terms were found, Black x Delta (Deep South: 1.05, West: 1.28, North: 0.92; $p \leq 0.01$) and Poverty x Gini (Deep South: 0.91, South: 0.89, Midwest: 0.65, North: 1.08; $p \leq 0.001$).

Conclusions: These findings reflect regional patterns of interplay between SDOH, systemic racism, and new HIV diagnoses. Overall, these findings inform regionally tailored public health efforts that address health disparities and systemic racism due to their effect on new HIV diagnoses.

OAD03 Innovative community approaches to HIV prevention, care and rights

OAD0302

Community-based participatory research analysis with transgender individuals as peer research associates in a qualitative study on female sex workers' health and rights in Argentina

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Background: The DEPICT Model is a collaborative, inclusive qualitative health research analysis approach integrating community and researcher perspectives to inform health research. This study aimed to describe the adaptation and benefits of the DEPICT model with the transgender community in the context of „MAS por Nosotras," a project on the sexual and reproductive health of female sex workers with and without HIV in Argentina after COVID-19 pandemic.

Methods: We adapted and followed the six sequential steps of the DEPICT Model (Dynamic reading, Engaged codebook, Participatory coding, Inclusive reviewing, summarizing categories, Collaborative analysis, and Translating). We analyzed twenty-four interviews conducted with policymakers and key actors at local and national levels to explore perceptions of access to healthcare and financial aid during and after COVID-19 pandemic using Monitoring of Results for Equity (MoRES) and Conservation of Resources Theory (COR) frameworks.

Results: Six steps were adapted and one added:
1. Training and organization: in methodology analysis of DEPICT for the social researchers (SR) and peer research associates (PRA), ensuring the approach is understood. We organized two pairs, one SR and one PRA for each.
2. Dynamic reading: team members reading the transcripts with an open mind, actively engaging, asking questions, identifying themes, and linking ideas.
3. Engaged codebook selection: selecting the MoRES and COR frameworks.
4. Participatory coding: analyzing two/three daily interviews to complete the twenty-four transcripts.
5. Inclusive reviewing and summarizing categories: SR and a third researcher harmonizing summaries.
6. Collaborative analyzing: results analysis and incorporation into policy briefs to amplify their impact.
7. Translating: Performing a Deliberative Dialogue to disseminate and translate the knowledge into concrete actions.

Benefits included a collaborative learning environment, strengthening the defense of community values, empowering teamwork, facilitating implementation, and improving research rigor.

Conclusions: Adapting the DEPICT Model to the transgender community highlighted the potential of participatory approaches in addressing complex health and social challenges. Fostering collaboration between researchers and PRAs, this model enhanced analysis rigor while empowering the community.

Incorporating a deliberative dialogue ensured research findings were translated into actionable policies, ensuring that the voices and needs of vulnerable populations were central to decision-making processes.

OAD0303

Unlocking success: recruitment and retention of CHWs for effective HIV prevention in West Virginia

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Background: The opioid crisis has increased HIV outbreaks from injection drug use in West Virginia. In response, the Community Health and Mobilization Prevention Program (CHAMPS) fostered a network recruitment model addressing the crisis in hard-to-reach areas. CHAMPS recruited individuals with histories of substance use and incarceration while serving socially and geographically isolated populations. This approach expanded access to education, resources, and peer education, strengthening community resilience.

Description: CHAMPS was established in Washington, D.C., by the Community Education Group (CEG) to address health disparities faced by communities of color. Training 150+ community health workers (CHWs), screening 10,000+ for HIV and 5,000+ for HCV annually, achieving a 90% linkage and retention rate. CEG adapted CHAMPS to address underserved and geographically isolated Appalachian communities. By incentivizing CHAMPS graduates for referrals, CHAMPS recruited, trained, and retained BIPOC individuals, former substance users, and the formerly incarcerated. Notably, 35% of all CHAMPS graduates were recruited by earlier participants, highlighting sustainability.

Participants graduated:	185
% Participants graduated:	89%
% Grads w/ history of substance use:	53%
% Grads identifying as female:	69%
% Grads identifying as BIPOC:	35%
% Grads w/ history of incarceration:	41%

Recruitment efforts prioritize areas with the highest overdose mortality rates, strategically placing graduates in communities most vulnerable to HIV outbreaks. Utilizing graduates' social networks as a recruitment strategy has facilitated high participation in outreach, with an ~82% retention rate. Graduates complete a comprehensive 147-hour CHW paid training program, including 22+ hours of specialized HIV education, equipping them with the knowledge and skills to address the opioid crisis.

Lessons learned: CHAMPS successfully recruited 35% of graduates across four cohorts through alumni, prioritizing vulnerable individuals. CEG's model proved effective, with increased alumni referrals and strong graduate engagement in outreach within their already established but newly trained networks.

Conclusions/Next steps:

- Expand CHAMPS throughout Appalachia and areas with similar overdose and HIV risks.
- Leverage the CHAMPS workforce for future HIV interventions and outbreak response.
- Evaluate CHAMPS' long-term impact on HIV prevention and care in Appalachia.

OAD0304

Breaking barriers: a community-led policy to address structural determinants of HIV care in rural Ghana

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Background: Structural determinants such as stigma, geographic inaccessibility, and limited resources continue to impede equitable access to HIV prevention and care in rural Ghana. In Navrongo, an indigenous community in the Upper East Region, these barriers disproportionately affect adolescents, women, and key populations.

This policy intervention aimed to dismantle these barriers by integrating community voices into health system strengthening while fostering sustainable, inclusive HIV care practices.

Description: Between 2023 and 2024, this initiative leveraged a community-driven model to adapt UNAIDS-recommended frameworks into localized policy action. Key activities included:

1. Stakeholder Integration: Active involvement of people living with HIV, traditional leaders, and healthcare seekers in policy design and implementation.
2. Capacity Building: Comprehensive training for healthcare workers on person-first approaches, U=U strategies, and tackling intersectional stigma.

3. Mobile Access: Deployment of mobile clinics that provided HIV testing, counseling, and antiretroviral therapy (ART) initiation, reaching underserved households.
4. Cultural Alignment: Culturally tailored communication campaigns that emphasized the role of community cohesion in health outcomes.

Lessons learned: The intervention achieved measurable success:

- Uptake of Services: A 45% increase in HIV testing rates, with 98% of people living with HIV starting ART within 30 days of diagnosis.
- Stigma Mitigation: A 70% reduction in reported stigma among healthcare seekers, as assessed through community surveys.
- Community Empowerment: Traditional leaders and local organizations played pivotal roles in normalizing HIV discussions and sustaining intervention efforts.
- Policy Adaptability: The approach highlighted the value of flexible, locally informed policies that reflect specific community needs.

Challenges included limited financial resources and the need for scalable mental health integration.

Conclusions/Next steps: This initiative underscores the potential of community-led, culturally sensitive policies to transform HIV prevention and care in rural settings. By addressing structural determinants, this approach aligns with UNAIDS' 95-95-95 targets, bridging gaps in health equity for people living with HIV. Future plans focus on scaling this model to other underserved regions, expanding mental health services, and increasing investment in mobile health delivery systems. These findings affirm the critical importance of collaborative, inclusive policy-making to advance global HIV care objectives.

OAD0305

Community-driven approaches to reducing HIV stigma and enhancing care

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Background: Background: In Nairobi's informal settlements, young people face significant challenges related to HIV stigma and access to care. This project aimed to explore community-driven interventions to tackle these issues and improve well-being. The scope included a grassroots initiative from January 2022 to December 2023, focusing on adolescents and young adults (15-24 years). Objectives were to reduce HIV stigma, improve treatment adherence, and enhance community awareness and participation.

Description: Description: From January 2022 to December 2023, we launched a grassroots HIV education and support program in Nairobi's informal settlements. The initiative targeted adolescents and young adults (15-24 years) and involved peer education, training community health workers, and collaborating with local organizations. Key activities included interactive workshops, personalized counselling sessions, and distribution of educational materials. The program aimed to reduce stigma, improve treatment adherence, and enhance HIV knowledge.

Lessons learned: Peer education built trust, with over 150 workshops reaching about 3,000 young people. Training local community health workers led to a 25% increase in HIV treatment adherence. Collaborative workshops with local organizations increased community participation by 40%, enhancing HIV knowledge and attitudes. Interventions reduced stigma by fostering open discussions and creating safe spaces, leading to a 30% decrease in self-reported stigma.

Conclusions/Next steps: The findings highlight the significance of community-driven approaches in addressing social and behavioral barriers to HIV prevention and care.

The reduction in stigma, improved treatment adherence, and increased community participation demonstrate the effectiveness of these interventions.

Future Implications:

- Leverage Peer Education: Continue involving young peer educators to build trust and share accurate information.
- Involve Community Health Workers: Train and support local health workers to ensure ongoing, personalized care and support.
- Enhance Local Partnerships: Collaborate with local organizations to maximize resources and broaden the program's impact.
- Scale Up: Expand these initiatives to reach more informal settlements and other vulnerable communities.

Scaling up these community-driven initiatives could further reduce stigma and improve health outcomes for young people in informal settlements, significantly contributing to the overall goal of HIV prevention and care.

These findings underscore the importance of community involvement in achieving sustainable and impactful health interventions.

OAD04 Climate change, mobility and HIV

OAD0402

Health disparities among migrant transgender women: results from TransCITAR cohort study in Argentina

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Background: Transgender woman (TGW) migrants faced increased health disparities, including stigma and limited healthcare access. Studies on migrants' health in Latin America remains scarce.

This study analyzed psychosocial and clinical factors associated with migration (international and internal) in TGW participating in the TransCITAR cohort study in Argentina.

Methods: From September/2019 to December/2022, TGW enrolled in TransCITAR prospective cohort completed baseline data on socio-demographics, HIV status, transgender-related stigma (TIS), depression (SCL-27 sub-scale), suicide attempts, substance use (tobacco use, sexualized drug use [SDU], alcohol [AUDIT-C]). Chi-squared tests with studentized residuals and ANOVA with Tukey's post hoc test were used to compare groups (international, internal/non-migrants).

Results: Among 423 TGW (Table 1), internal migrants comprised 46.80% (n=198), international 31.21% (n=132, 18.7% with permanent residency, 66.7% Argentine national ID), and non-migrants 21.99% (n=93). Internal migrants were younger (M=31.03±8.10 years) than international migrants (34.23± 9.16, p=006). HIV prevalence was highest in international (53.0%) and internal migrants (42.7%; p<.001). Sex work prevalence was 68.7% for internal migrants, 53.8% in international migrants, and 22.6% in non-migrants (p<.001). Unstable housing was more frequent in migrants (both 50.5%) than non-migrants (8.6%, p<.001). Depressive symptoms and suicide attempts were more frequent in internal migrants (p = .036, p=.013). Substance use, including tobacco (52.6%) and SDU (36.6%), was significantly higher among internal migrants (p<.001). Discrimination by security forces was more frequent among internal migrants (p=.003), and levels of transgender stigma in international migrants (p=.006).

Characteristics	Total n=423 (100%)	Non-migrants n=93 (21.99%)	International migrants n=132 (31.21%)	Internal migrants n=198 (46.80%)	p-value
Financial aid support, yes	190(45.0)	33(33,5)[a]	41(31.1)[a]	116(58.9)[b]	.000
Gender Identity Discrimination for security forces, yes	95(22.5)	15(16.1)[a]	21(15.9)[a]	59(29.8)[b]	.003
Transgender Identity Stigma score, M (SD)	6.05(7.37)	6.34(6.88)[a,b]	4.39(5.94)[b]	7.02(8.25)[a]	.006
Depressive Symptoms Sub-scale Score, M (SD)	0.55(0.63)	0.54(0.58)[a,b]	0.45(0.54)[a]	0.63(0.70)[b]	.036
Suicide Attempts, lifetime, yes	128(26.4)	30(21.6)[a]	28(20.9)[a]	70(33.2)[b]	.013
Tobacco use, yes	206(40.6)	53(38.1)[a]	42(31.3)[a]	111(52.6)[b]	.000
Sexualized drug use (last month), yes	159(36.6)	34(27.4)[a]	32(27.6)[a]	93(47.9)[b]	.000
Alcohol use score total (last month), M (SD)	3.56(2.87)	3.94(3.00)[a]	3.57(2.82)[a,b]	2.75(2.52)[b]	.004

Table 1. Descriptive statistics and comparison of sociodemographic, psychosocial, and clinical characteristics among migrants (international and internal) and non-migrants.

Note. [a,b,c] Categories that share the same letter do not have statistically significant differences in proportions within that row.

Conclusions: TGW migrants face significant health disparities, with international migrants showing high HIV prevalence and internal migrants exhibiting worse social and health outcomes. Tailored interventions are critical to improving the HIV continuum of care for international migrants.

OAD0403

HIV transmission risk, sexual and mobility behaviors among men, women, and female sex workers living with HIV in informal gold mining sites in Mali: the ANRS-12392 – Sanu Gundo study

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Background: In Mali, circular migration, sex work, geographic isolation, and limited access to HIV care services and prevention information create a potential risk for HIV transmission in and from informal gold mining sites (IGMS). We aimed to compare vulnerabilities, mobility, behaviors, and HIV transmission risk among men, female sex workers (FSW), and non-FSW-women living with HIV at IGMS.

Methods: We used data from the ANRS-SANU Gundo trial conducted in 2019-2022 at the Kofoulatiè and Diassa IGMS. Baseline characteristics of participants (newly HIV-diagnosed), and ART adherence and HIV transmission risk six months after initiating ART were compared using Chi-square tests.

Results: Of the 149 PLHIV, 34% were men, 26% were FSW, and 40% were non-FSW women. Men and non-FSW-women were more likely to report condomless sex with HIV-negative/unknown-status spouses at baseline (31%, 55% *vs.* 13% in FSW, p<0.001) and to have no education (69%, 79%, *vs.* 16%, p<0.001). Non-FSW-women were more likely to have a precarious socioeconomic status (55%, *vs.* 33% in men, 16% in FSW, p<0.001) and to self-perceive at risk of transmitting HIV (34% *vs.* 13%, 5%, p=0.007). FSW reported 90[60; 90] sexual partners in the past month (*vs.* 1[0;1] in the other groups). They were more likely to be foreigners and non-residents of IGMS (79% *vs.* 2% in men, 15% in non-FSW women, p<0.001), to report sex under alcohol or drugs (26% *vs.* 2%, 1%, p<0.001), and condomless sex with HIV-negative/unknown-status occasional partners (18% *vs.* 3%, 2%, p=0.004). Six months after initiating ART (n=72), 36% of men and 30% of non-FSW-women were at risk of HIV transmission (i.e., uncontrolled viral load and condomless sex with any HIV-negative/unknown-status partner), compared to 18% of FSW (p=0.05). ART adherence was similar across groups.

Conclusions: Our findings highlight the urgent need to strenghten and tailor HIV care and information campaigns in IGMS in Mali, not only for key populations such as FSW, where the risk of transmission may primarily stem from high mobility, multiple partners, and substance use, but also for men and other women living with HIV, who are also at risk of transmission due to unprotected sex with their spouses and socio-economic vulnerabilities.

OAD0404

The perfect storm? Impact of climate change on HIV treatment access and adherence in Zimbabwe

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Background: People living with HIV (PLHIV) face compounded challenges due to climate change, such as drought, extreme temperatures, and water scarcity. These environmental stresses can interfere with HIV care adherence and exacerbate poor health outcomes.

We explored the effects of climate change on HIV care and treatment adherence in 15 districts of Zimbabwe.

Methods: We conducted a mixed method study. Quantitative analyses utilized retrospective cross-sectional data from client satisfaction surveys (CSS) among PLHIV (≥18 years) on antiretroviral therapy (ART) from November–December 2024. We summarized demographic characteristics, climate related disruptions and barriers to HIV care across 321 health facilities in 15 districts of Zimbabwe.

We conducted three focus group discussions (FGDs) with recipients of HIV care. These were audio recorded, transcribed, translated into English, then uploaded to Dedoose for coding using deductive and inductive approaches.

Results: Among 896 PLHIV in ART care completing the CSS, 587 (66%) were female. Median age was 45 years (IQR: 36-52 years). Overall, 665 (74%) reported observed changes in climate in their communities over the past 5 years;75% (n=497) of whom reported disruptions to HIV care due to climate change. Among those reporting disruptions to HIV care due to climate change, 432 (87%) reported adherence challenges related to lack of food, while 315 participants (63%) cited insufficient water access. Half of the participants identified transportation and financial barriers as critical issues affecting their ability to access HIV care;129 (26%) reported inability to safely store medication due to extreme temperatures.

Qualitative findings revealed that climate change exacerbated pre-existing vulnerabilities which impeded HIV care such as food insecurity, particularly, crop failures and livestock deaths, which disrupt household access to food and income required for accessing health facilities. Climate effects were cited as causes for taking HIV medications without adequate food or water, leading to side effects which decreased adherence.

Conclusions: Climate change create and exacerbate a cascade of challenges, such as food insecurity and water shortages, that reduce adherence to care for PLHIV. These challenges require integrated climate adaptation and resilience strategies within routine HIV care programs to improve health outcomes for PLHIV in climate vulnerable regions.

OAD0405

Investigating the associations between weather, climate and HIV outcomes in sub-Saharan Africa: a systematic review

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Background: The increasing frequency and intensity of extreme weather events in sub-Saharan Africa pose unique challenges for public health. While the potential links between weather, climate, and HIV outcomes have been hypothesised, evidence remains limited.

This systematic review aimed to explore existing studies and identify gaps in understanding how weather and climate influence sexual behaviours, HIV transmission, and HIV progression in sub-Saharan Africa.

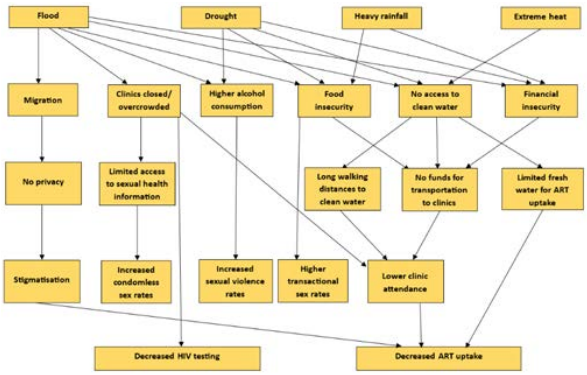
Methods: A systematic search of five databases was conducted to identify qualitative and quantitative studies examining weather and climate variables and HIV-related measures in sub-Saharan Africa. A narrative synthesis approach was used to summarise findings.

Studies were assessed for quality, and descriptive trends were identified. A framework representing causal pathways between weather, climate and HIV outcomes was developed, based on the results from the qualitative studies.

Results: Twenty studies (14 quantitative, six qualitative) were included. Drought was the most frequently studied exposure and was associated with increased HIV prevalence, higher transactional sex rates, and ART disruptions, especially in rural areas.

Heavy rainfall and extreme heat were associated with food insecurity, migration, and reduced healthcare access, further exacerbating HIV risks. Research gaps included limited longitudinal data, underrepresentation of children and key populations, and little focus on Western and Central Africa regions.

Variability in weather and climate metrics and reliance on cross-sectional designs limited the generalisability of findings.



Conclusions: Weather and climate might significantly impact HIV outcomes through indirect pathways such as food insecurity, migration, and healthcare access. Vulnerable populations, including rural women and adolescents face disproportionate risks.
Future research should prioritise longitudinal studies, standardised metrics for weather and climate variables, and targeted investigations into underrepresented regions and populations. Integration of climate resilience strategies into HIV programmes, investment in data collection systems, and policies addressing climate-driven health vulnerabilities are critical.

OAD05 "I will not lower my voice": Experiences from trans and gender-diverse communities

OAD0502

HIV prevalence, risks, and vulnerabilities of trans and gender diverse people in Saint Petersburg, Russia

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Background: Trans and gender diverse people (TGD) play a critical role in the context of the HIV epidemic, yet significant knowledge gaps persist. These gaps include limited regional diversity and a particular scarcity of data from Eastern Europe, with a predominant focus on trans feminine individuals, leaving data on trans masculine and other gender diverse people notably sparse. So far no data on TGD living in Russia, country with the largest HIV epidemic in the region has been available.
This study represents the first exploration of Russian TGD individuals, focusing on Saint Petersburg, a city attracting TGD people from across the country.
Methods: We conducted a bio-behavioral surveillance study using respondent-driven sampling (N=300). Behavioral data was collected through face-to-face structured interviews, and capillary blood HIV tests were conducted following WHO protocols.
Results: Transgender men (45.9%) and non-binary individuals (32.4%) predominate within the group, while transgender women constitute only 14.6%, yet bear the entirety of HIV cases (HIV prevalence 14.1% (95% CI: 0% – 28.3%). Social transition is common, with 45.8% undergoing hormonal therapy. However, this poses health risks, as 60.0% lack medical supervision, and 45.6% use non-pharmacy drugs.
Overall, the study indicates low prevalence of risk behaviors among TGD individuals: needle sharing during hormonal injections is rare (0.6%), so as injection drug use (0.9%) and sexual activity (39.6% reported sex in the last 6 months).
Yet, coverage by HIV prevention (11.5%) and testing (61.8% ever tested) services remains insufficient. Despite often concealing their identity, TGD individuals encounter various forms of discrimination and violence, with a significant proportion exhibiting signs of depression (63.5%). The newly enacted law prohibiting gender transitions had a significant negative impact on the TGD lives: 65.1% reported deterioration in their psychological well-being, 22.4% accelerated gender transition, 39.3% began to seriously consider emigration.
Conclusions: While the overall HIV prevalence among TGD individuals in Saint Petersburg does not suggest a concentrated epidemic (1.9%), transgender women remain at heightened risk of HIV acquisition. Inadequate coverage by HIV prevention and testing services coupled with negative social changes in the country services underscores the urgent need for targeted interventions addressing the unique vulnerabilities of this population.

OAD0503

PrEP experiences and challenges among transgender women in the United States and Puerto Rico in the era of PrEP choice: findings from the ENCORE cohort

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Background: Real-world data on PrEP choice and experience following approval of long-acting PrEP are limited. We sought to characterize the experiences of transgender women using PrEP in a large nationwide cohort.
Methods: From March 2023 to September 2024, we enrolled English and Spanish-speaking adult transgender women without HIV (laboratory-confirmed) into the ENCORE cohort. Data were collected via self-reported baseline surveys. Descriptive statistics characterized self-rated PrEP experience (0-100 scale with 100 indicating completely positive experience), challenges taking PrEP, and reasons for PrEP method selection. We assessed for differences by race, ethnicity, age, insurance, income, and geographic region.
Results: We enrolled 2,506 participants, 591 of whom had ever used PrEP (24%). At baseline, 439 used PrEP in the prior 6 months. Of these, 415 (95%) used daily oral, 15 (3%) received long-acting injections (LAI), and 9 (2%) used both. Participants rated their PrEP experiences positively: mean (standard deviation): 87(22); median (IQR): 100 (82-100). Ratings did not significantly differ by PrEP modality or sociodemographic characteristics. Commonly reported pill challenges were: difficulty remembering daily dose (28%),

side effects (25%), and assumptions about sexual behavior from others (22%). Reported LAI challenges were: injection site pain and/or side effects (38%), required clinical visits (33%), and assumptions about sexual behavior from others (21%).

Black and Latina participants were more likely than non-Hispanic White participants to report stigmatizing experiences related to their PrEP use including assumptions about their HIV status and number of partners and disapproval from partners.

Top reasons for choosing oral over LAI were: using pills before LAI FDA-approval (35%), healthcare provider recommendation (32%), and unaware of LAI (31%). Top reasons for choosing LAI over pills were: dosing frequency (79%), dislike pills (38%), and healthcare provider recommendation (21%).

Black participants were more likely to cite concern that the effectiveness of long-acting would decrease over time as a reason for choosing oral PrEP. Latina participants were more likely to cite greater confidence in pills as a reason for choosing oral PrEP.

Conclusions: Transgender women generally report positive PrEP experiences, but motivations and challenges may differ by race and ethnicity. Shared decision-making interventions may support effective PrEP use.

OAD0504

Stigma leads to substance use among MSM and transgender women living with HIV: insights from Vietnam

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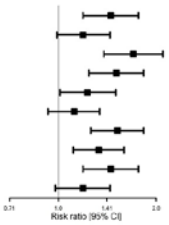
Background: Previous research on stigma as a driver of substance use among men who have sex with men (MSM) and transgender women (TW) living with HIV has been limited in establishing causality. We aimed to evaluate the association between stigma experiences and the subsequent initiation of opiates and amphetamine-type stimulants (methamphetamine, heroin, and ecstasy) in a prospective cohort of MSM and TW with HIV in Vietnam.

Methods: A community-based study was conducted in the Mekong Delta, Vietnam (2019–2022), involving MSM and TW with HIV who had no prior substance use. Five stigma dimensions—mockery, negative judgment, physical attack, sense of exclusion, and emotional/mental trauma—were assessed at baseline, and substance use initiation was evaluated after a follow-up period (median: 394 days). Univariable and multivariable Poisson models were used to estimate prevalence differences (PD), attributable risk (AR), and 95% confidence intervals (CIs).

Results: Among 504 participants, 76.0% were MSM and 24.0% were TW. By the end of the follow-up, 30.1% had initiated substance use (21.8% methamphetamine, 16.5% ecstasy, and 0.8% heroin). Overall, 66.8% of participants reported experiencing at least one form of stigma (57.7% sense of exclusion, 49.4% emotional/ mental trauma, 47.4% mockery, 45.8% physical attack, and 22.8% negative judgment). Physical attacks, sense of exclusion, and emotional/mental trauma were significantly associated with increased risk of substance use. Among MSM, stigma led to 14 new substance users per 100 annually (PD=0.14 [95% CI: 0.08–0.19]; AR=36.7% [24.8–47.1];). Among TW, it resulted in 18 new users per 100 annually (PD=0.18 [0.07–0.30]; AR=37.9% [16.0–54.1]).

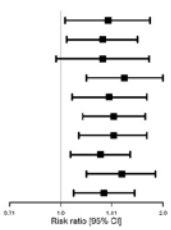
A. MSM (n= 383)

Stigma	Model	Risk ratio [95% CI]	p-value
Mockery	Model 1	1.45 [1.19 - 1.76]	<0.001
	Model 2	1.19 [0.99 - 1.44]	0.069
Physical Attacks	Model 1	1.70 [1.38 - 2.10]	<0.001
	Model 2	1.51 [1.24 - 1.83]	<0.001
Negative Judgments	Model 1	1.23 [1.01 - 1.50]	0.038
	Model 2	1.12 [0.93 - 1.34]	0.220
Sense of Exclusion	Model 1	1.52 [1.26 - 1.83]	<0.001
	Model 2	1.33 [1.11 - 1.59]	0.002
Emotional Trauma	Model 1	1.45 [1.19 - 1.76]	<0.001
	Model 2	1.19 [0.98 - 1.44]	0.075



B. Transgender women (n= 121)

Stigma	Model	Risk ratio [95% CI]	p-value
Mockery	Model 1	1.38 [1.03 - 1.83]	0.029
	Model 2	1.33 [1.04 - 1.68]	0.021
Physical Attacks	Model 1	1.33 [0.97 - 1.82]	0.080
	Model 2	1.54 [1.19 - 2.00]	<0.001
Negative Judgments	Model 1	1.39 [1.08 - 1.79]	0.011
	Model 2	1.43 [1.16 - 1.77]	<0.001
Sense of Exclusion	Model 1	1.43 [1.13 - 1.79]	0.002
	Model 2	1.31 [1.07 - 1.60]	0.009
Emotional Trauma	Model 1	1.51 [1.19 - 1.90]	<0.001
	Model 2	1.34 [1.09 - 1.65]	0.006



Conclusions: Stigma is a critical social determinant of health. Beyond its psychosocial toll, stigma drives harmful risk behaviors that undermine treatment adherence, exacerbate HIV transmission risks, and amplify health inequities among MSM and TW, necessitating the integration of stigma-reduction strategies into clinical practice and public health policy.

OAD0505

Exposure to violence among transgender women living with HIV in France, engaged or not in sex work: results from the national ANRS-14056 TRANS&VIH study

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Background: Worldwide, stigma and violence experienced by transgender women (TGW) and by sex workers (SW), negatively impacting health and access to HIV care. This is the first national-level study investigating typologies of recent violence experienced by TGW living with HIV (TGWHIV), engaged or not in sex work, in France.
Methods: The ANRS-TRANS&HIV study was a national, cross-sectional, retrospective survey conducted in 2020-2022 among 536 TGWHIV recruited from 36 HIV care centers. Typologies of recent violence exposure were identified using latent class analysis based on 24 violence-related variables (by type and perpetrator), separately for TGWHIV-SW and non-sex workers (TGWHIV-nSW). We used multinomial logistic regression to assess factors associated with TGWHIV-SW typologies.
Results: Among the 501 participants with complete violence data, five violence typologies emerged: in TGWHIV-SW, "clients/street violence" (17%), "multiple perpetrators violence" (involving clients, passersby, police, colleagues, partners, family, and friends) (8%), and "low violence" (42%); in TGWHIV-nSW, "multiple perpetrators violence" (3%) and "no violence" (30%).
In TGWHIV-SW, "clients/street violence" was associated with antiretroviral treatment (ART) interruption for ≥2 days in the previous month (aOR: 1.9 95% CI [1.0–3.4]) and stimulant consumption (2.3[1.2–4.3]), compared to "low violence". "Multiple perpetrators violence" was associated with a lack of moral support (2.9[1.3–6.7]) and depression (4.2[1.9–9.2]). Both typologies of violence were associated with inadequate housing conditions (2.3[1.2–4.4]; 2.0[0.9–4.5]), daily cannabis use (4.4[1.8–10.9]; 3.1[0.9–10.7]), and engaging in transactional sex in public or outdoor locations (4.0[1.9–8.8]; 4.2[1.4–12.8]).
Conclusions: Whether or not involved in sex work, TGWHIV face multidimensional violence in France. Among TGWHIV-SW, this appears to be exacerbated by precarious housing and sex work conditions, with varying health implications. These include ART interruptions among those exposed to street violence in the context of sex work, and mental health issues among those subjected to violence by multiple perpetrators, including from their close social circle and the police. In a context of structural transphobia and sex work criminalization, ensuring equitable access to HIV care and mental health services for TGW is critical and inseparable from protecting their fundamental human rights and improving their socio-economic conditions.

OAD06 Harnessing technology: Digital health applications

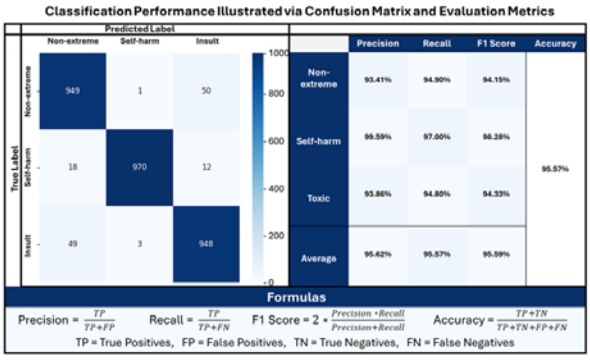
OAD0602

Ai-powered preventive intervention for stigma and suicidal ideation in HIV self-management: development, evaluation, and user testing of the MARVIN chatbot's integrated mental health management module

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Background: Stigma and mental health challenges like anxiety and depression which are major concerns for people with HIV (PWH) can sometimes lead to self-harm and suicidal ideation. Our AI-powered MARVIN chatbot supports HIV self-management by providing knowledge, assisting with medication adherence. To address extreme user intentions effectively, we developed and incorporated a preventive intervention module.
Methods:
1. MARVIN/ChatGPT Hybrid Module: Using the CO-STAR framework (i.e., providing Context, Objective, Style, Tone, Audience, and Response format), we prompt-tuned ChatGPT to classify message intent into self-harm, insult, or non-extreme (i.e., any other intent). We tested performance with three public hate speech datasets (hatespeechdata.com), MARVIN-user conversations, and a synthetic dataset (N=1000/class), evaluating precision, recall, F1 score, and overall accuracy. The algorithm was integrated into MARVIN.
2. Multidisciplinary Validation: Six testers (three Canadian PWH, a Chinese engineer, an Algerian engineer, and a French doctor; all male, based in Canada) tested MARVIN for two hours through 14 conversational scenarios without sharing sensitive data and completed a two-item questionnaire on clarity and satisfaction.
Results: With one-shot prompting, the hybrid module attained 97.00% and 94.90% for recall on self-harm and insult intent, respectively.
Overall accuracy reached 95.57%, with the remaining metrics shown in the figure below. The MARVIN-ChatGPT hybrid module successfully generated appropriate re-

sponses containing:
1. Emergency contact information for self-harm intents;
22. Messages guiding users to use stigma-free expressions for insult messages, and;
3. A response reviewed by a medical expert for a non-extreme intent.
All six male testers found MARVIN's responses to be clear and concise and were satisfied with the overall experience. However, one PWH participant suggested including links to additional resources.



Conclusions: Testing this anti-stigma/suicidal ideation module within MARVIN demonstrated its ability to detect extreme intents and deliver concise responses, highlighting AI-driven chatbots' potential in fostering virtual stigma-free self-management and mental health support for PWH.

OAD0603

"Superbees Awakened" - development of a digital game to enhance understanding of germline-targeting vaccine trials among communities and site staff in South Africa and India

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Background: With advances in rational HIV vaccine design, discovery medicine vaccine trials (DMVTs) involve testing of complex scientific hypothesis, require intensive clinic visits and often include invasive sampling. Thus, it becomes critical for trial participants, participating communities and site staff to understand the scientific rationale behind these trials to enhance awareness, motivation and trust. To address this unmet need, IAVI partnered with Quicksand to develop digital games that explain germline targeting concepts using behavioral science, gamification and interactive digital design.

Description: We conducted 10 co-creation workshops with HIV vaccine scientists (n=5), clinical trial site staff (n=10) and community representatives (n=10) to (a) understand information needs; (b) identify metaphors; (c) develop sequential story line (d) devise game play. Through immersive engagement and iterative prototyping, a 4-module digital game "Superbees Awakened" was developed to (1) elaborate the human immune system and role of a research lab (*Exploring the "Weza Forest" and "Forest Health Centre"*) (2) explain non-conventional sampling like large blood draws, leukapheresis and fine needle aspirations (*Scan the large, filtered and focused samples*); (3) identify conserved HIV epitopes and design whole protein or mRNA delivered immunogen (*Spot the "Common Point"*); and (4) explain B-cell maturation, prime-boost vaccine schedules and germline targeting (*Train and target*). Post-game discussions enabled players to link game metaphors with HIV science.

Lessons learned:

- When scientific information is conveyed to communities through relatable stories and culturally relevant metaphors, it **facilitates self-driven exploration of scientific concepts** leveraging indigenous knowledge as opposed to prescriptive top-down information sharing.
- The self-discovery of science is less intimidating and **leads to greater self-confidence and higher retention of information**.
- The metaphors need to be carefully identified and vetted by scientific experts to avoid miscommunication, thus **balancing scientific accuracy and clarity of content**.
- Digital modules should **bring together variety of game types** (puzzles, action, adventure, skill-based) rather than a singular experience to cater different learning styles.

Conclusions/Next steps: Digital gamification represents an impactful strategy for simpler, clearer and relatable science communication relevant to communities. Given the broad reach and high familiarity of digital technologies among youth, this game serves as a complementary tool to routine information, education and communication methodologies.

OAD0604

Efficacy of a clinic-integrated HIV prevention app "JomPrEP" among men who have sex with men in Malaysia: preliminary findings of a randomized control trial

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Background: Men who have sex with men (MSM) are disproportionately affected by HIV. In Malaysia, where MSM face high levels of stigma and discrimination, including in healthcare settings, mobile health platforms offer promising opportunities for advancing HIV prevention. Thus, to scale up HIV prevention endeavors among this vulnerable group, we created a clinic-integrated HIV prevention app called "JomPrEP" which provides a virtual platform for them to engage in HIV prevention services. In collaboration with the local clinics in Malaysia, JomPrEP offers a number of HIV prevention (ie, HIV testing and pre-exposure prophylaxis [PrEP]) and other support services without having to interface with clinicians.
This study aimed to measure the efficacy of the JomPrEP app to increase HIV testing and PrEP uptake among MSM in Malaysia
Methods: We conducted a randomized controlled trial on 268 MSM (intervention group=134, control group=134) in Malaysia. Participants were recruited online from November 2023 to September 2024. Participants were randomly assigned to either access the JomPrEP app or receive standard healthcare services.
Measures like demographics, HIV and STI testing history, PrEP uptake, sexual behavior, drug and alcohol use, stigma, and depression were evaluated at baseline and 3, 6, and 9-month periods.
Results: Participant's mean age was 28.8 (5.7) years. Overall, the intervention group showed a 26.8% increase in HIV testing and 5.9% increase in PrEP uptake compared to control group. Of the intervention participants, 43.3% initiated PrEP, with 36.6% opting for on-demand PrEP and 6.0% choosing traditional PrEP.
Interestingly, HIV testing had significantly increased over time in both groups (F (2,711) = 81.38, $p < 0.001$). Participants at 3 (OR = 16.83, 95% CI, 8.85–32.02) and 6 months (OR = 7.90, 95% CI, 4.13–15.12) showed higher odds of HIV testing than baseline.
In addition, compared to the control group, participants in the intervention group had significantly higher odds of PrEP uptake at 3 months (*OR*=2.32, *95% CI* 1.00–5.37) and 6 months (*OR*=2.99, *95% CI* 1.26–7.13).
Conclusions: Our study demonstrated that the JomPrEP app is an effective tool for increasing HIV testing and PrEP uptake among MSM in Malaysia as compared to the standard of care.

OAD0605

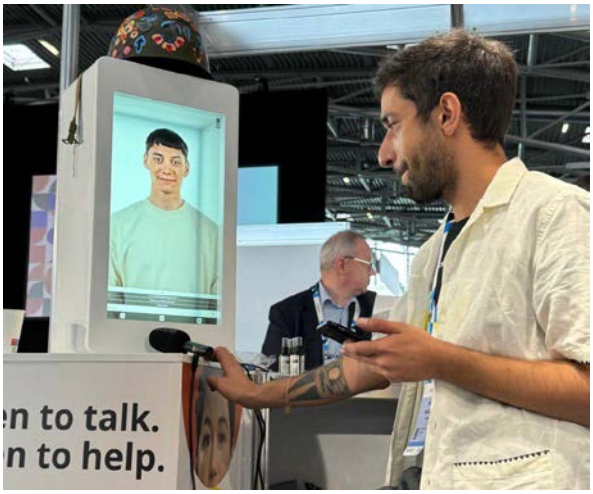
TWIIN: a digital assistant for enhancing health access among key populations

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Background: TWIIN is an AI-powered digital assistant designed to address barriers faced by key populations, such as people who use drugs (PWUD) and men who have sex with men (MSM). It provides 24/7, anonymous support for HIV prevention, mental health, and harm reduction, aiming to reduce stigma and improve service access.



Description: Piloted in Ukraine, TWIIN integrates artificial intelligence with culturally relevant digital humans to provide tailored information and connect users to essential services. Focus areas include HIV prevention, harm reduction, sexual health, and mental health.
During the pilot, over 5,000 unique users generated nearly 39,000 sessions. To maximize outreach, TWIIN utilized social media campaigns, NGO partnerships, and collaborations with community representatives. Anonymity and accessibility were prioritized, especially in wartime conditions.



Lessons learned: Feedback showed high satisfaction, with 85% rating TWIIN as 4-5/5 and 87% recommending it. Piloted targetting PWUD and MSM we observed user experience from various perspectives. Onboarding over 400 doctors and 70 NGOs supported integration into existing services. Challenges included response delays and contacts ipresentation, which are being addressed through system improvements. The pilot emphasized the importance of cultural relevance, user anonymity, and iterative feedback to refine the platform.
Conclusions/Next steps: TWIIN has shown great promise in expanding health access for marginalized populations, particularly in challenging settings. Plans include enhancing response times and developing additional modules. In 2025, TWIIN will launch in Moldova and Georgia, with localized adaptations to meet country needs. This scalable, digital health innovation offers a replicable model for addressing HIV prevention, mental health, and harm reduction globally.

OAE01 Advancing equity in the HIV response: Key populations, human rights and quality intervention

OAE0102

Improving the health and human rights of PLHV and key populations in Myanmar: Community Feedback Mechanism project by Puu Paung Swann Saung Myanmar (2021-2024)

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Background: Myanmar established Community Feedback Mechanism (CFM) in 2014 by the leadership of Community Network Consortium on HIV which consists of (8) HIV National Networks. The CFM focused on issues related to PLHIV , KP and implemented through networks collaborating with target groups in townships. The PPSSM is one of the network implementing CFM in six townships since 2021.
Description: CFM collects feedback related to health services, law and justice issues, workplace and socially related issues. The feedback were gathered through MyRights Application and then directed to relevant townships for further action. At the local level, local CFM committees, with the guidance and support of National AIDS Program (NAP), oversee the activities, verify the cases and decide how to proceed with concerns. Supports such as legal assistance, emergency support, and counseling are provided as necessary to resolve these issues.
Lessons learned: Since 2021, a total of (449) cases were received via MyRights Application. The Key Population classification on the total cases of (n=449), the cases were classified as 369 (82%) were PLHIV, 57 (13%) were FSW, 22 (5%) were MSM and 1 (0.22%) were PWID. Of which 10 cases (2%) were invalided and 439 cases (98%) were approved. Among the approved cases of (n=439), 358 cases (82%) were resolved and the rest were unresolved. The cases were identified as follows: Healthcare related - 30 cases (7%), Law and Justice Related – 20 (5%), Socially Related - 358 (82%), and Workplace Related - 31 cases (7%). The resolved cases were 358 (80%), unable to resolved case were 79 (18%) and 2 (0.4%) of cases were in process of case handling by CFM. During this period, a total of 57 (13%) cases were provided 55 (12.5%) for Nutrition Support and 2 (0.5%) for Referral Transportation Allowance to health facility sites as the emergency support of CFM by PPSSM.
Conclusions/Next steps: Since its inception, the project has proven to be the most successful community-led system which significantly impacted the development of successful communication strategies and monitoring of HIV-related services. Many users have provided positive feedback and praised the service for its accessibility and the quality of information and guidance offered.

OAE0103

Leaving no one behind: implementation of informal female sex workers intervention for fast-tracking HIV case detection in Andhra Pradesh: a sustainable, scalable program experience from India

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Background: In the rapidly changing sex work milieu, there has been a major shift in the traditional forms of soliciting sex by female sex workers resulting in emergence of more discreet spaces, working under network operators (NWOs) and are referred as informal female sex workers (iFSWs). Based on our implementation experience, the iFSWs are part-time sex workers and are most often engaged as home makers or does petty work. The fact that these iFSWs are not covered by HIV helps them in seeking confidentiality and secrecy, but poses multiple risks and vulnerabilities, including HIV.
Description: We conducted community listening exercise that helped discover the characteristics and needs of iFSWs and the role of NWOs in reaching iFSWs. A comprehensive package of services were offered ranging from HIV/STI education, testing and treatment, condom distribution, TB screening and treatment, NCD services, mental health counseling, addressing violence faced by iFSWs, linkages with government departments for social protection, etc. The primary goal is to improve the health and well-being of iFSWs and aid in achieving HIV epidemic control in the Andhra Pradesh state.
Lessons learned: During May 2022 to September 2024, 4,039 iFSWs were reached and all of them were provided HIV education. HIV testing was done for 66.94% (2,704), of which 10.1% (274) were detected positive and 94.5%

(259) were initiated on ART. The mean age of iFSWs is 29.3 (±5.05) years, 79.6% (3,216) of the iFSWs possess 1-2 years of experience in sex work. Around 93% (3,768) were married and majority of them 87.2% (3,521) were living with their spouse. Most of the iFSWs (93.9% (3,795)) solicit sex through NWOs. Around 20.6% (833) migrate for sex work and majority of them (53.7%, 282) migrate for a week's time.

Conclusions/Next steps: Given the secretive nature of sex work and being outside of the radar of routine HIV interventions, the importance of implementing programs targeting iFSWs through NWOs cannot be over-emphasized. The iFSW intervention strategy to reach the unreached KPs at early detection of HIV, can be sustainable and scalable by integrating it with the existing targeted intervention.

OAE0104

Survival is not enough: enhancing mental health integration in key population HIV focused programming in Kalangala islands post Uganda's Anti Homosexuality Act 2023

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Background: The enactment of Uganda's Anti Homosexuality Act (AHA) in 2023 intensified stigma and discrimination among Key Population (KPs) especially gay and other men who have sex with men and Transgender. Although efforts in HIV treatment have improved survival rates, many KPs in Kalangala islands have continuously experienced profound mental health challenges including anxiety, depression, suicidal thoughts which undermine ART adherence and treatment outcomes. In response to this outcry, Action for Integrated Sustainable Development (AISDA) through its KP program embarked on integrating mental health support to KPs to enhance ART adherence and mental wellbeing by addressing stigma and discrimination in the aftermath of AHA. This followed attendance of one of its staff at AIDS 2024 and gained insights on integrating mental health in KP programming.

Description: A self-reporting questionnaire with 20 questions was designed and administered to KPs by trained social workers during home visits and clinic days to screen for mental health issues. Social workers assessed responses to specific questions to identify immediate risks. Scores on suicidal thoughts triggered immediate interventions employing safety planning approaches including referrals for specialized care. Recognizing geographical isolation of islands, tele-mental health support was integrated through follow-up calls and virtual counselling sessions. Regular home visits were conducted by social workers to provide holistic support to KPs including monthly intensive adherence counselling to non-suppressing KPs, post disclosure counselling and psychosocial support.

Lessons learned: Mental health integration improves ART adherence and viral load suppression; Adherence improved from 75% to 92% and viral load suppression increased by 15% since August to December 2024 among 288 KPs.

Tele-mental health support enhances access to care in island settings. 85% of clients flagged for follow-up utilized virtual sessions with 80% reporting satisfaction and reduced symptoms after engagement.

Peer-led support groups create safe spaces and reduce stigma; self-reported cases of discrimination reduced by 40% and participants expressed increased confidence in accessing care.

Involvement of community leaders in the project fostered acceptance in communities.

Conclusions/Next steps: Integration of mental health support for KPs post AHA 2023 has fostered purposeful living, enhanced mental wellbeing significantly improving HIV treatment outcomes, underscoring the need for holistic stigma-free care.

OAE0105

Making HIV care affordable: cost-effectiveness of interventions for refugee women and girls in Nakivale refugee settlement, Southwestern Uganda

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Background: Refugee women in Nakivale, face disproportionate risk of acquiring HIV due to combination of social and structural challenges. High levels of poverty, stigma, limited access to healthcare services exacerbate their vulnerability. Despite global progress in HIV prevention and care, interventions in refugee contexts fail to address unique needs of these populations, regarding affordability and accessibility. Resource-constrained settings like Uganda lack evidence on cost-effectiveness of localized strategies, hindering informed decision-making and sustainable program design.

This research addresses gaps by evaluating costs, affordability, and effectiveness of tailored HIV interventions in Nakivale, providing critical insights to guide resource allocation, policy formulation.

Methods: Cost-effectiveness analysis was conducted between January-June 2024, focusing on three interventions: mobile HIV testing counseling services, women's economic empowerment programs, community-led stigma reduction campaigns. Cost data were collected from healthcare providers, implementing partners, local organizations, while effectiveness measures included increased HIV testing uptake, improved linkage to care, reductions in new acquisitions. Data were analyzed using incremental cost-effectiveness ratio (ICER) framework in Uganda Shillings (UGX) from community and provider perspectives. Affordability was assessed by comparing intervention costs to household and community income levels.

Results: Mobile HIV testing services were most cost-effective, with an ICER of UGX 185,000 per additional HIV diagnosis compared to standard facility-based testing. Women's economic empowerment programs reduced new HIV acquisitions by 18% over six months, with an ICER of UGX 440,000 per acquisition averted.
Community-led stigma reduction campaigns significantly increased HIV testing uptake (by 34%) and linkage to care (by 27%), with an ICER of UGX 310,000 per additional client linked to care.
Affordability assessments indicated that while these interventions are effective, their sustainability remains heavily reliant on external donor funding, as household income levels within the settlement are insufficient to cover implementation costs.
Conclusions: The study highlights that mobile HIV testing, economic empowerment, stigma reduction interventions are cost-effective and impactful in reducing HIV-related risks in Nakivale Refugee Settlement. Achieving long-term affordability requires integration of these interventions into Uganda's health financing systems and continued support from development partners.
These findings provide critical guidance for policymakers and implementers to design scalable, cost-effective, locally sustainable HIV programs in refugee contexts.

OAE02 No retreat, no surrender: Sustaining the HIV response in times of turmoil

OAE0202

Domestic resource mobilisation for HIV in Africa: a comparative analysis of country policies and practices

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Background: This research explored how seven African countries are adapting their Domestic Resource Mobilization (DRM) policies and strategies for HIV/AIDS in response to potential declines in international funding. The study analyzed the challenges faced, prioritized strategies, and innovative approaches adopted.

Methods: This study examined Domestic Resource Mobilization (DRM) strategies for HIV/AIDS in seven African countries: Nigeria, Zambia, Ethiopia, Malawi, Kenya, Tanzania, and Zimbabwe. Employing a mixed-methods approach, it analyzed secondary data, including academic literature, grey literature (policy documents, and reports), and each country's DRM strategies. Thematic analysis identified key themes such as common trends, challenges, best practices, and the impact of DRM on national HIV/AIDS outcomes. Country selection criteria included receiving support from PEPFAR or the Global Fund and having established DRM policies. Focus Group Discussions (FGDs) in select countries corroborated findings from the secondary data analysis.
Results: While international funding remains crucial for HIV responses, its reliance varies significantly. PEPFAR data reveals that only one country contributed over 60% of its HIV funding from internal sources in FY 2024, while others contributed between 1% and 15%. UNAIDS data shows international health assistance persistently plateaued at annualized rate of 1.2% since 2012. This highlights the urgent need for countries to prioritize self-financing strategies for their health and HIV programs.
Common DRM strategies found included public-private partnerships, earmarked taxes, health insurance, community contributions, integrated financing mechanisms, and sector-wide approaches. Emerging innovations include service integration, leveraging retrieved illicit funds for health, social contracting, utilizing technology, and adopting innovative financing mechanisms. Other strategies include concessionary loans, debt conversions, and risk pooling.
Key weaknesses hindering effective DRM include constrained budgets due to limited fiscal space, significant human resource for health (HRH) gaps, mismanagement of funds, and weak health systems. While some countries have dedicated HIV or health financing policies, others lack such frameworks.
Conclusions: This research underscores the critical need for specific policies and practices to strengthen Domestic Resource Mobilization (DRM) for HIV/AIDS in Africa. Its findings aim to guide policymakers and stakeholders in designing and implementing more effective and sustainable strategies, ultimately contributing to the global goal of ending the HIV/AIDS epidemic by 2030.

OAE0203

From donor to domestic HIV financing in sub-Saharan Africa: a review of transition models, challenges, and success factors (2015-2024)

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Background: The transition from donor to domestic financing for HIV programs in Sub-Saharan Africa is a critical challenge faced by many countries as they strive to sustain their HIV response amidst dwindling external support. This narrative review examines transition models, challenges, and success factors from 2015 to 2024, providing insights into how countries can effectively manage this shift and ensure the continuity of essential services.
Methods: We conducted a narrative review of evidence for combined terms related to HIV financing, donor transition, domestic resource mobilization, and Sub-Saharan African countries. Evidence published between February 2015- September 2024 was included.
Data reported in this research article were obtained from reports, literature in peer-reviewed journals found in PubMed, PubMed Central, and ScienceDirect, grey literature, UNAIDS database, and other data sources. The authors also snowball further data to gather information for this review.
Results: 42 studies were included in this review. Our findings reveal diverse transition models employed by countries in the region. For instance, Zimbabwe established an AIDS Trust Fund through a tax mechanism that generated approximately $52.7 million for HIV programs.
Botswana utilized a debt conversion instrument through its National HIV/AIDS Prevention Support program, generating $20 million to enhance prevention efforts.
Côte d'Ivoire implemented a Debt2Health agreement that provided $27 million for treatment and prevention initiatives.
Uganda has creatively leveraged government funding from other health sectors to maintain HIV services amid donor transitions.
However, significant challenges persist, including the risk of service disruption for key populations and reliance on unpredictable domestic funding sources.
Successful transitions are often characterized by strong political commitment, effective stakeholder engagement, and the adoption of innovative financing strategies that leverage local resources.
Conclusions: This review highlights the complexity of transitioning from donor to domestic HIV financing in Sub-Saharan Africa. While some countries have made significant progress through innovative approaches and strong leadership, others continue to struggle with dependency on external funding.
To ensure the sustainability of HIV programs, it is crucial for countries to enhance domestic resource mobilization and develop comprehensive strategies that address identified challenges.

OAE03 Zero AIDS-related deaths: Scaling up advanced HIV disease response

OAE0302

Point-of-care community delivery of the advanced HIV disease care (AHD) package during door-to-door TB-case finding

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Background: People with HIV (PWH) with AHD (PWAHD) (re)presenting to care are at high mortality risk. Community delivery of the AHD care package allows early AHD detection and management. The package was provided to PWH during door-to-door TB screening in (semi) rural Lesotho and South Africa (SA) (clinicaltrials.gov-:NCT05526885).
We evaluated the burden of AHD and implementation of the package.
Methods: Between September 2022-2024, consenting adult PWH were offered point-of-care CD4-testing (VISITECT until a batch recall in April 2023, PIMA after that) and if CD4≤200cells/µl, serum cryptococcal antigen (CrAg) and urine TB lipoarabinommaman (TB-LAM) testing. PWH (re)-entering care (with TB symptoms in Lesotho) and those eligible by a triage algorithm were offered sputum Xpert MTB/RIF Ultra (Xpert).
A PIMA CD4≤200cells/µl or positive Xpert (among those with access to both, others have "unknown" AHD status) was considered AHD. VISITECT results were inaccurate and not presented.
Treatment initiation included anti-retroviral treatment (ART), cotrimoxazole if CD4≤200cells/µl and TB preventive therapy (TPT; if new HIV-positive or not previously received), and Xpert-positives were referred for TB treatment. PWAHD were referred to their health facility and traced after 56 days.
Results: 20,024 people were enrolled; 65.1% in Lesotho and 34.9% in SA. HIV-positives represented 22.7% (4536); 19.7% (2568) of Lesotho and 28.2% (1968) of SA participants (Table). 1917 (42.3%) had valid CD4 results following the VISITECT recall and PIMA supply delays.
Among them, 49 (2.6%) had CD4≤200cells/µl and 7 (0.4%) were Xpert-positive. Fifty-five (2.9%) had AHD. All 46 CrAg and 45 TB-LAM tests performed were negative.
Among eligible PWAHD, 54/55 were on ART, 6/7 on TB treatment, 7/28 on cotrimoxazole, and 1/8 on TPT on day 56.

		Total PWH (n, col%)		Unknown AHD status (n,% of PWH)		Evaluated for AHD (n,% of PWH)		AHD (% of evaluated)		no AHD (% of evaluated)	
		4536	100	2619	57.7	1917	42.3	55	2.9	1862	97.1
Sex	Female	3269	72.1	1902	58.2	1367	41.8	23	1.7	1344	98.3
	Male	1264	27.9	716	56.6	548	43.4	32	5.8	516	94.2
	Ambiguous	3	0.1	1	33.3	2	66.7	0	0.0	2	100.0
HIV status	Known HIV-positive on ART	4453	98.2	2556	57.4	1897	42.6	51	2.7	1846	97.3
	Known HIV-positive not on ART	22	0.5	16	72.7	6	27.3	1	16.7	5	83.3
	Newly diagnosed with HIV	61	1.3	47	77.0	14	23.0	3	21.4	11	78.6
Country	Lesotho	2568	56.6	1592	62.0	976	38.0	12	1.2	964	98.8
	South Africa	1968	43.4	1027	52.2	941	47.8	43	4.6	898	95.4

Conclusions: AHD prevalence was 3% among PWH during community recruitment. Community implementation of the AHD care package is conditional on the availability of appropriate CD4 tests. Prophylactic treatment initiation needs improvement.

OAE0303

Reducing mortality and sustaining gains in advanced HIV disease management: a comparative analysis of transitioning support to the Ministry of Health in Malawi

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Background: To enhance sustainability and improve outcomes, the responsibility for advanced HIV disease (AHD) services transitioned from a project-based approach to the Ministry of Health (MoH). This study evaluated the impact of this transition on AHD screening, CD4 testing uptake, tuberculosis (TB), cryptococcal meningitis (CM) management, and 12-month survival.

Methods: A retrospective cohort study was conducted at 22 health facilities during pre-transition (June–December 2021) and post-transition (April–September 2023). HIV client's records were reviewed to capture 12-month follow-up data. Inclusion criteria included individuals aged >5 years with CD4 < 200 cells/mm³, WHO Stage 3/4 disease, newly diagnosed HIV, ART initiation <12 months, or ART instability >12 months, as well as all children <5 years initiating ART. Outcomes analyzed included WHO staging, CD4 coverage, ART experience, TB and CM screening, and mortality. Statistical analyses included Cox proportional hazards modeling and competing risk regression.

Results: Among the 1,042 clients enrolled (pre-transition: N=553; post-transition: N=489), 49.7% (N=275) and 52.7% (N=258) were female, respectively. The median age was 38 years (IQR: 30–46) pre-transition and 40 years (IQR: 32–48) post-transition. Hospital-based care increased post-transition (55.7% vs. 71.2%; p=0.001).

Advanced WHO Stage 3/4 presentations rose (47.6% vs. 65.3%; p=0.001), as did ART-experienced patients (24.2% vs. 44.6%; p=0.001), while CD4 testing coverage declined (80.6% vs. 45.9%; p=0.001). TB screening rates remained high (97.3% vs. 98.2%; p=0.528), with increases in TB diagnoses (29.5% vs. 39.2%; p=0.005) and urine LAM positivity (30.8% vs. 44.1%; p=0.001).

Mortality at 12 months significantly declined (9.4% vs. 5.5%; HR=0.59, 95% CI: 0.37–0.94, p=0.024)—see Table 1.

	Phase of AHD program implementation	
	Pre-transition	Post-transition
N	553 (53.0%)	491 (47.0%)

	HR*(1)	95% CI	p-value	HR**(2)	95% CI	p-value
Pre-transition	1.00			1.00		
Post-transition	0.59	[0.37 - 0.94]	0.026	0.58	[0.36 - 0.93]	0.024

**(1) Cox regression **(2) Fine and Gray competing risk regression*

Table 1: Treatment outcomes and comparison of survival function between pre- and post-transition periods

Conclusions: The successful transition of AHD project activities saw sustained critical outcomes and reduced mortality but highlighted gaps in CD4 testing. This approach must be used to scale up the intervention beyond these sites.

OAE0304

Why are people living with HIV not prescribed TB preventive treatment at ART initiation? Insights from a cohort study

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Background: High rates of tuberculosis (TB) preventive treatment (TPT), especially at antiretroviral therapy (ART) initiation among people living with HIV (PWH), is critical for progress towards TB elimination. We characterized reasons for non-prescription of TPT at ART initiation among PWH in the North West and Free State provinces of South Africa.

Methods: This study was nested within a cluster-randomized trial conducted in 36 public-sector primary health clinics. Medical records were abstracted for all adult (18+) PWH who had an HIV care-related visit over a one-year implementation period. This analysis was limited to PWH who initiated on ART during the implementation period (between September 2021 - August 2023), including those re-initiating treatment.

Prescribing of TPT within 12 months of ART initiation and reasons for non-prescribing TPT, as documented in the clinical file, are presented with chi-square analysis for sex, age, and province differences.

Results: Clinic records of 5,004 PWH initiating ART were abstracted; 63% were female and the median (interquartile range [IQR]) age was 36 years (29, 44).

Overall, 3,651 PWH (73%) were prescribed TPT up to 12 months after ART initiation; 86% initiated TPT on the same day as ART. TPT prescribing differed by province (70% compared to 77%, p<0.001) but not by sex or age.

Among the 1,335 (27%) PWH who were not prescribed TPT, complete data for the ART initiation visit was available for 1,124 (84%). 940 (84% of those who did not receive TPT) lacked a clear reason for non-prescribing of TPT; 82 (7%) had a TB investigation recorded, 76 (7%) were on TB treatment or completed TB treatment in the last 12 months, 6 (0.5%) completed TPT in the past 12 months, and 1 (0.1%) evidence of a contraindication (liver disease, heavy alcohol use, or hypersensitivity to INH). Nineteen (2%) additional patients had at least one TB symptom recorded without documentation of a TB investigation.

Conclusions: Approximately one-quarter of PWH initiating or re-initiating ART were not prescribed TPT with the majority not prescribed TPT appearing to meet South African TPT eligibility criteria. There remains a significant gap of people eligible, but not receiving TPT.

OAE0305

Characteristics of HIV-exposed infants testing positive on the Early Infant Diagnosis Program, in Bunyoro, mid-western Uganda, a retrospective cohort review from April 2021 to September 2024

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Background: Early Infant Diagnosis (EID) of HIV is crucial for timely identification and antiretroviral therapy (ART) initiation among HIV-exposed infants (HEIs) that seroconvert. Bunyoro registered a decline in vertical transmission of HIV (VT) from 2.3% in April 2021 to 1.8% in September 2024.

However, HEIs still seroconvert on the EID program, undermining efforts towards zero new infections by 2030. This study aimed to characterize HEIs that seroconvert on the EID program in Bunyoro.

Description: A retrospective audit of HEI clinical charts from 91 health facilities assessed factors associated with VT using a positive infant audit tool. Ninety-two percent (239/260) seroconverted at first DNA PCR (average age 7.1 months). The majority were from facility sick entry points, mother-baby care points (MBC), community HIV testing, and Expanded Program on Immunization (EPI) at 34% (88), 28% (74), 19% (49), and 15% (39) respectively. Maternal average age was 26 years (47% adolescent girls and young women [AGYW][16-41 years].

Overall non-ANC attendance was 47% (122/260), 65% (168/260) knew their HIV status during pregnancy, of whom 69% (116/168) either tested HIV positive before pregnancy or during first ANC, 31% (52/168) were HIV negative during ANC and seroconverted late in pregnancy or while breastfeeding (BF).

HIV disclosure rates to spouses among pregnant women living with HIV stood at 49% (74/116). Despite a high ART initiation rate of 97% (253/260), (73% [185/253]) initiated ART late (after second trimester), while 3% (7/260) declined ART due to non-disclosure. Interruption in treatment (IIT) among the 116 mothers on ART before delivery was 81% (94) and, 65% (168/260) of mothers had non-skilled delivery.

Lessons learned: Facility sick entry points, MBC points, community HIV testing, and EPI (96%) were key areas for identifying HIV-positive infants, highlighting the need for strengthened EID/EPI integration. Late ART initiation (73%), IIT (81%), and low disclosure rates (49%) suggest substantial gaps in early ANC interventions. Seroconversion during BF (31%) requires intensified maternal retesting and PrEP integration.

Conclusions/Next steps: Strengthening EPI/EID integration, EID testing by 2 months, and scaling up AGYW programming, targeted community-based mobilization are some approaches that can improve timely prevention of VT and expand PrEP uptake.

OAE04 Accelerating integration in a new operating environment

OAE0402

Towards elimination of HIV, Syphilis and HBV mother-to-child transmission in The Gambia and Burkina Faso: the triple elimination model of mother-to-child transmission (TRI-MOM) program

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Background: West Africa faces significant challenges with mother-to-child transmission (MTCT) of HIV, syphilis, and hepatitis B virus (HBV) infections. Despite this burden, MTCT of these infections can be effectively prevented with straightforward interventions. The World Health Organization (WHO) has advocated for a "triple elimination" model, integrating the prevention of these infections into maternal care services to accelerate their control and elimination.

The TRI-MOM project aims to evaluate the feasibility of integrating thes triple elimination model in two West African countries.

Methods: In The Gambia, the triple elimination strategy was deployed across four healthcare sites representing different levels of care. First, we conducted training for healthcare workers (HCWs) on the three infections to enhance awareness and capacity. Then we offered free routine antenatal screening for the three infections using rapid diagnostic tests. Pregnant women testing positive for any of the 3 infections received appropriate treatment or prophylaxis to prevent MTCT. Data on MTCT outcomes and cost-effectiveness were collected and analyzed to assess the strategy's impact.

Results: Between January-March 2024, HCWs in government facilities were trained. Simplified screening and treatment/prophylaxis SOPs were developed and adapted per health facility. Between 18th March and 23rd December 2024, 6,301 pregnant women were screened for the 3 infections. Overall, 99% of all pregnant women accepted screening.

Among these, 267 women (4.23%) tested positive for at least one infection: 75 had HIV mono-infection, 173 had HBV mono-infections, 14 had syphilis mono-infection, 4 had HIV/HBV co-infection and 1 had HIV/syphilis co-infection. All HIV-positive women were started on antiretroviral therapy (ART) following the "test-and-treat" approach. All syphilis-positive women accepted treatment with benzathine penicillin, with no adverse reactions reported. Of 173 HBV mono-infected women, 45 received TDF prophylaxis either based on high viral load (>200,000IU/mL) or based on a test-and-prophylax protocol.

Conclusions: The TRI-MOM project demonstrates that integrating triple screening for HIV, syphilis, and HBV into maternal care is both feasible and acceptable. Training of government HCWs, counselling of women and availability of rapid diagnostic tools have enabled seamless implementation. This approach can improve maternal and neonatal health outcomes and promote elimination of MTCT of these infections.

OAE0403

Leveraging community-based viral load sample collection to close treatment gaps among pediatrics and adolescents on ART in Zambia

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Background: Despite significant global efforts, pediatrics and adolescents living with HIV continue to experience wide treatment gaps globally. In Zambia, pediatric and adolescent viral load (VL) coverage and suppression in 2021 were at 74% and 91%, respectively, falling short of the UNAIDS 95-95-95 targets. These gaps are exacerbated by barriers such as distance to health facilities, stigma, and limited pediatric and adolescent-focused interventions. To close the treatment gap, the USAID Empowered Children and Adolescents Program I (ECAP I) partnered with PEPFAR clinical teams to implement a pediatric and adolescent-focused surge.

Description: The surge focused on training, coaching and mentorship to 493 community health workers to conduct ethical index HIV testing and ensuring initiation on ART for pediatrics and adolescents newly diagnosed with HIV. Community VL sample collection was integrated and implemented across 100 health facilities in 13 high HIV burden districts in Zambia. At each health facility setting, a multidisciplinary team of clinicians, social workers, and community health workers, jointly conducted community VL sample collection focusing on pediatrics and adolescents on ART that were due for VL testing as well as those that where in 'hard-to-reach' areas due to distance to the health facility. On average, the project covered about 5.4% of over 10,200 pediatrics and adolescents on ART that were eligible for VL testing each year from 2020 to 2024, for whom VL sample was collected, and result documented on file.

Lessons learned: The initiative has contributed to improvement in VL coverage for pediatrics and adolescents on ART from 86.4% in October 2021 to 95.6% in September 2024, while VL suppression was sustained at 96.9% from 87.0%, during the same period. Qualitative insights revealed that joint implementation of clinical and OVC program interventions by multi-disciplinary teams contributes to improving the health and well-being of marginalized priority sub-populations.

Conclusions/Next steps: This intervention demonstrated the potential to improve VL coverage and suppression among pediatrics and adolescents, reducing persistent treatment gaps. Scaling this model to additional regions and integrating it with digital health solutions could further enhance its impact.

OAE0404

Resilient HIV care in crisis: transforming access through drugs dispensing points in Haiti

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Background: Chronic and recent crises in Haiti, including insecurity, lockdowns, fuel scarcity, and internally displaced populations, have severely impacted healthcare workers and disrupted HIV care. In response, the Georgetown University Center for Global Health Practice and Impact launched the Drugs Dispensing Points (DDP) project to improve treatment access. Haiti remains the Caribbean country most affected by HIV, with approximately 120,000 people living with HIV (PLHIV) on antiretroviral therapy (ART). This study highlights the context, challenges, implementation, and results of the DDP strategy.

Description: Using Human-Centered Design (HCD), the implementation team collaborated with the Ministry of Health (MoH), eight implementing partners, and 261 stakeholders, including 108 PLHIV clients, to identify 159

strategic DDP locations. A DDP Priority Scale and a seven-step Team Cycle Strike guided implementation. Selected sites underwent rigorous evaluation, and were equipped with trained staff, confidentiality measures, and digital tools. Medication dispensation is monitored via the National Dispensing Interface Platform (nDIP), a web and mobile-based ecosystem developed with SOLUTIONS SA. nDIP connects 167 treatment sites and 57 decentralized DDPs, offering real-time updates on prescriptions, clinical statuses, and service management. Over 100 treatment providers were trained on client referrals to DDPs, updating statuses, and ensuring seamless care coordination to maintain robust adherence and information flow within Haiti's HIV care network.

Lessons learned: *Customization*: Tailored DDP services through four organizational models—private pharmacies, PLHIV associations, community health centers, and community-based institutions—ensured local adaptability. *Collaboration:* Partnerships with MoH and stakeholders were key to identifying and establishing DDPs. *Technology:* nDIP enabled efficient medication management and real-time care coordination. *Training:* Comprehensive provider training supported effective DDP operations and client adherence. *Crisis Response:* The DDP model proved resilient, with increased acceptance during crises.

Conclusions/Next steps: The DDP model has improved ART access for over 10,000 clients, achieving a 98% viral suppression rate. By integrating HCD, leveraging technology, and fostering collaboration, the model reduces stigma, enhances care retention, and adapts to Haiti's challenges. Continued investment will advance Haiti toward UNAIDS' 95-95-95 targets and eliminate HIV as a public health threat.

OAE0405

Unlocking access to advanced HIV disease care: lessons from Lesotho's phased strategy

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Background: Advanced HIV Disease (AHD) is a leading cause of death in Lesotho, with a prevalence of 14.5% among people living with HIV (PLHIV). Recognizing the severe socioeconomic toll of AHD on individuals and the health system, Lesotho prioritized a robust public health response. With support from CHAI, the Ministry of Health (MoH) introduced a comprehensive AHD treatment and management program, achieving nationwide coverage by 2024 through a phased implementation approach.

Description: In 2019, CHAI, the Ministry of Health (MoH), and other development agencies developed national AHD management guidelines, the first-ever national guidance dedicated to AHD. The MoH selected a hub and spoke model to deploy the care package. Hubs (district hospitals) provide screening, pre-emptive therapy, and treatment for all conditions, while spokes (health centers) screen and treat some opportunistic infections. In 2021, MoH introduced the AHD care package in all 18 hubs, referred to as phase I sites. Key enablers of rollout include implementation planning with MoH and partners, quantification and procurement of AHD focal commodities, healthcare worker training, and program monitoring. Applying this phased approach, MoH increased access to AHD services from 7% in 2021 to 31% and finally achieved 100% at all health care levels in 2024.

Lessons learned: The scale-up of AHD management has been successful, but challenges remain in optimizing program monitoring, increasing screening and treatment for diseases like Cryptococcal Meningitis, and strengthening the AHD supply chain. A phased implementation approach has helped address these challenges given technical assistance resource constraints experienced during supportive supervisory visits. To further address these challenges, the government will leverage continuous quality improvement initiatives and conduct data quality assessments to enhance service delivery and data quality in 2025.

Conclusions/Next steps: A phased approach has enabled Lesotho to achieve nationwide AHD service coverage despite resource constraints. This underscores the government's commitment to reducing AHD-related morbidity and mortality. Moving forward, sustained focus on high-quality, integrated service delivery will be critical to reducing AIDS-related deaths and securing long-term program success and impact.

OAE05 Nothing about us without us: Strengthening the HIV response through community-led monitoring

OAE0502

Outcomes from a community-led monitoring (CLM) intervention in Malawi and South Africa

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Background: Since 2020, more than $100 million has been invested in community-led monitoring (CLM), globally. To date, CLM research largely centres on the identification of issues with HIV services and barriers to access. Few studies show how CLM leads to concrete changes in service uptake or health outcomes. Rigorous evaluation methods are needed to demonstrate the effectiveness of the intervention.

Methods: Community-led organizations systematically collected data on HIV prevention and treatment services from 33 health facilities in Malawi and South Africa between November 2020 and October 2024 (four years). They routinely fed this data back to decision-makers to inform service improvements.

At the end of the project, we compared outcomes at the CLM sites with the other health facilities in the focus districts by analyzing DHIS2. We also investigated whether more intensive CLM was associated with improved results. We calculated odds ratios (ORs) to determine the effect of the CLM intervention.

Results: Recipients of care at CLM sites were more likely to initiate pre-exposure prophylaxis compared to other facilities (1.32 OR 95% CI 1.27-1.38). Pregnant women at CLM sites were twice as likely to deliver in the health facility, reducing the risk of vertical transmission (1.99 OR 95% CI 1.51-2.62). The CLM sites were also more likely than non-CLM sites to find and diagnose adolescent girls and young women (AGYW) living with HIV (1.46 OR 95% CI 1.28-1.66).

As a result, the cost to diagnose one AGYW living with HIV was $2,852 at the CLM sites compared to $4,154 at the non-CLM sites.

More intensive CLM was associated with improved service coverage and health outcomes. At CLM sites with additional resources for community scorecards, community mobilization, and community dialogues, people living with HIV were six times more likely to access treatment through a differentiated service delivery model (6.79 OR 95% CI 6.04-7.63). People at the intensive CLM sites were twice as likely to be virally suppressed compared to the standard CLM intervention (2.34 OR 95% CI 2.16-2.54).

Conclusions: It is possible to evaluate CLM interventions using rigorous scientific methods. Identifying a control group can be helpful to demonstrate the effectiveness of CLM.

OAE0503

From barriers to breakthroughs: the impact of community-led monitoring on healthcare access in Liberia

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Background: The Liberia Network of People Living with HIV (LibNeP+) with funding from the Global fund has made significant strides in advancing Community-Led Monitoring (CLM) to enhance accountability, equity, and quality in healthcare delivery. With technical assistance from Community-Led Accountability Working Group (CLAW) consortium, LibNeP+ piloted the CLM model in five counties——monitoring 28 sites, including 14 health facilities, 2 drop-in centers, and 12 populated areas.

This pilot aimed to identify systemic barriers, enhance service delivery, and empower communities to advocate for people-centered solutions.

Methods: The six-month pilot (July–December 2023) engaged 14 peer monitors to collect and analyze data from facility managers, nurses, people living with HIV (PLHIV), key populations (KPs), and pregnant women using qualitative and quantitative tools.

We conducted comprehensive training to 22 member organizations, including county supervisors, key population-led and PLHIV-led organization, and LibNeP+ staff, with support from the National AIDS Control Program (NACP). Training topics included CLM Setup, data analysis, and evidence-based advocacy to enhance CLM efforts by involving more community-based organizations.

Data collection included interviews with facility managers, ART clinicians, and recipients of care. Findings informed targeted interventions through rapid feedback loops with healthcare providers and decision-makers.

Results: The pilot revealed critical gaps in healthcare delivery and demonstrated the transformative impact of CLM interventions.

Conclusions: The CLM pilot in Liberia demonstrated the impact of community-driven approaches in addressing systemic healthcare barriers. Peer monitors fostered trust and provided actionable insights, leading improve quality of care. Building on its success, we plan to scale CLM nationwide. Regular data-sharing forums with key decision makers will sustain momentum and drive systemic

improvements, positioning CLM as a replicable model for equitable, community-centered healthcare transformation.

Metric	Baseline (Pre- Intervention	Post-Intervention	Change
Average Wait Time (hrs)	3.9	2.5	↓ 36%
Queue Length	22	15	↓ 32%
PrEP Awareness	67%	85%	↑ 18%
PrEP Uptake (% Offered PrEP)	50%	70%	↑ 20%
Stock-Outs	13%	5%	↓ 62%
ART Refill Periods (% Offering 3-6 months)	50%	80%	↑ 30%
KP-Specific Services Available	67%	85%	↑ 18%
Client Satisfaction	85%	92%	↑ 7%

Table. Metric Baseline (Pre- Intervention Post- Intervention Change.

OAE0504

Advancing HIV Service quality through community-led monitoring system in Chiang Mai, Thailand

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Background: People-centered HIV services that respond to the needs of clients necessitate feedback mechanisms such as Community-Led Monitoring (CLM) where stigmatized population groups can voice their concerns and perspectives on how to improve HIV testing, treatment, and Pre-Exposure Prophylaxis (PrEP).
Description: A group of civil society and at-risk population (including people-living-with-HIV (PLHIV)) representatives in Chiang Mai, Thailand launched a people-centered CLM system in January 2022. This CLM aims to improve HIV service delivery by collecting and analyzing data on service quality and clients' satisfaction through structured feedback tools, surveys and interviews with clients to identify gaps and formulate improvement plans. This initiative involved 17 committee members and 21 hospitals collaborating to enhance service quality per the evolving needs of at-risk populations.
Lessons learned: Data collection was conducted during March 2022 - November 2024 and yielded 3,425 responses from 21 hospitals across Chiang Mai.

CLM Results	Outcomes
Clients reported low or no access to PrEP in many hospitals. (2022)	Expansion of PrEP facilities from 13 to 24 hospitals across all 24 districts. (2023)
PLHIV felt that multi-month dispensing (MMD) was not offered to them by providers (2022)	Provincial Health Office-led strategy to scale up 6-month MMD at 24 hospitals. (2024)
PLHIV reported that U=U was not integrated in counseling. (2023)	Provincial Health Office launched a comprehensive U=U campaign. (2024)

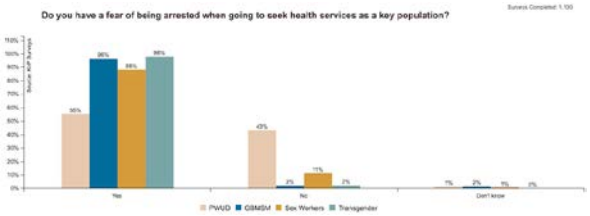
In addition to CLM findings, the structured feedback tools were formalized into Standard Operating Procedures (SOPs) for data collection and analysis and subsequently scaled up to three other provinces: Chiang Rai, Phitsanulok, and Ubonratchathani.
Conclusions/Next steps: CLM is vital in creating a participatory environment where at-risk populations monitor and review HIV services. Through the implementation in Chiang Mai during March 2022 - November 2024, CLM improved PrEP service availability to cover all districts in the province, reduced travel burden for ART refills for clients living with HIV, and increased awareness of U=U (Undetectable=Untransmittable) among the public, at-risk population communities, and service providers. With standardized tools and community leadership, CLM proves to be an effective and scalable process to enhance HIV service quality in multiple provinces.

OAE0505

Accessibility of HIV services for key and vulnerable populations (KVPs) in criminalized contexts: findings from KVP-led community monitoring in Dar es Salaam

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Background: Ending the HIV epidemic will require closing gaps for most at-risk populations. In contexts where key and vulnerable populations (KVPs) are stigmatized and criminalized such as Tanzania, this will require continuous availability of friendly services. However, accurate assessments of the state of healthcare for KVPs are challenging in these contexts. This project aimed to fill this gap with monitoring of service accessiblity by and for KVPs.
Description: The Key and Vulnerable Populations (KVPs) Forum in Tanzania spent two weeks collecting community-led monitoring data among KVPs in Dar es Salaam in September 2024. An electronic data collection system was used, with data collected by key populations in Kiswahili at community hot spots. 1,343 KVPs consented to interviews (336 transgender individuals, 314 sex workers, 298 people who use drugs, 194 men who have sex with men (GBMSM), and 201 adolescent girls and young women (AGYWs)).
Lessons learned: These data reveal that despite promises of non-discriminatory healthcare provision, services, especially at public health facilities, remain discriminatory and inaccessible to many. More than half (54%, n=191) of KPs surveyed who use public facilities had been refused services in the last year, including 80% (n=41) of GBMSM and 75% (n=106) of transgender people. Many fear arrest when seeking services (Figure 1). More than half (53%, n=159) of KVPs felt very unsafe or unsafe at facilities. Lack of safety at facilities extended beyond criminalized populations to AGYWs as well, with 57% (n=30) of AGYWs using public health facilities reporting feeling unsafe.



Conclusions/Next steps: These data represent one of the largest samples of KVPs in Tanzania, pointing to the importance of data collection for vulnerable populations by vulnerable populations. As international funders elevate sustainability conversations where policies fail to protect human rights, programs like KVP-led CLM are critical to ensuring we have accurate pictures of the lived realities of HIV service acessibility.

OAE06 Revolutionizing HIV: AI, equity and the next frontier

OAE0602

Enhancing data quality for differentiated service delivery: lessons from Zimbabwe's multiregional DSD review

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Background: Differentiated Service Delivery (DSD) is a client-centered approach that simplifies and adapts HIV services to reflect clients' preferences and expectations while reducing unnecessary burdens on the health system. Zimbabwe started implementing DSD models for ART in 2017 and has been conducting DSD Reviews annually since 2018. They assess implementation progress and peer-learning opportunities to share best practices, challenges and innovations. The 2024 DSD Review was conducted in July – August 2024.

Description: A total of 148 facilities in 30 districts from 4 provinces participated. Data was collected using Survey CTO and analysed using PowerBI. A facility survey and individual patient survey tools were used. Data was abstracted from 4,630 patient files for recipients of care (RoCs) in the 12-, 24- and 36-months ART cohorts. Data was collected from paper-based tools and/electronic medical records for services received across the HIV continuum of care for HIV testing, treatment, management of high viral load and integration with Tuberculosis, Family Planning, Mental Health, Opportunistic Infections and Non-Communicable Diseases.

Lessons learned: As Zimbabwe nears epidemic control, it is imperative that available data sources are robust, as we provide client centered services, for better data driven decisions. However, the review showed incompleteness on some key patient variables such as DSD model (22%), Date of Birth (4%), Date of HIV Diagnosis (4%), Sex (1%) and Date of ART initiation (1%). This is despite having Standard Operating Procedure for recording and reporting. Zimbabwe intensified development of a module for DSD models with validation rules and subsequent data visualizations within electronic health record (EHR) with support from PEPFAR. The module was refined after several validations and deployed to 795 facilities. Zimbabwe plans to decommission all paper tools, inter-connect DHIS 2 with EHR and eventually utilize EHR to do DSD reviews.

Conclusions/Next steps: The review provided an opportunity for assessing data quality. We learnt that data quality was sub-optimal on some variables. Electronic medical records provide an opportunity for improving data quality. However, there is a need for governments and implementing partners to tackle challenges around connectivity, power, hardware, software development and Human Resources for Health capacity building to sustain the system for better data quality.

OAE0603

Decentralizing HIV care: blockchain solutions for client data integrity and pharmaceutical supply chain resilience

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Background: Blockchain technology is revolutionizing HIV care by addressing critical challenges in data management and pharmaceutical supply chains. Its decentralized, tamper-proof architecture offers solutions to fragmented systems, privacy risks, and inefficiencies that undermine global treatment equity.

Description: Blockchain technology has demonstrated transformative potential across HIV care delivery, with applications spanning client data management and pharmaceutical supply chains. In Kakamega, Kenya, the *Immunify.Life* initiative replaced paper-based systems with blockchain-enabled real-time data tracking, improving treatment adherence by 25% among non-adherent clients over 12 months. Parallel efforts in Houston, Texas, utilized blockchain platforms for pre-exposure prophylaxis (PrEP) access, achieving 83% user trust and reducing administrative errors by 40% through secure, decentralized health records (Yue et al., 2022). Beyond clients care, blockchain strengthened supply chain resilience: in Malawi, tracking of ARV drugs reduced clinic stock outs from 25% to 12% and lowered counterfeit drug rates by 35% across 150 clinics (Gavi, 2023), while a Ghanaian pilot cut HIV test kit delivery delays by 50% in rural areas through blockchain-monitored shipments. These geographically diverse implementations highlight blockchain's dual

capacity to enhance care coordination and safeguard medical supply chains, addressing systemic inefficiencies in both high- and low-resource settings.

Lessons learned: Blockchain enhances data security, interoperability, and supply chain transparency. Key successes include adherence gains (25% in Kenya), error reduction (40% in the U.S.), and counterfeit drug mitigation (35% in Malawi).

Challenges such as infrastructure gaps (e.g., rural internet access) and regulatory complexities (e.g., HIPAA compliance) demand hybrid models and public-private partnerships for scalability.

Conclusions/Next steps: Blockchain's success in improving client adherence, reducing counterfeit drugs, and streamlining supply chains underscores its potential to revolutionize HIV programs globally. However, scaling these innovations requires addressing infrastructure gaps (e.g., internet access in rural areas), regulatory alignment (e.g., HIPAA compliance), and stakeholder training.

Future efforts should prioritize hybrid blockchain models to balance transparency with compliance, foster cross-sector collaboration to expand solutions, and explore broader applications in chronic disease management and cross-border health data sharing.

By integrating blockchain with emerging technologies like AI, healthcare systems can unlock predictive analytics for supply chain optimization and personalized client care, positioning blockchain as a cornerstone of equitable, client-centered healthcare worldwide.

OAE0604

Innovative use of mobile digital chest-xray equipped with artificial intelligence to improve TB diagnosis among people living with HIV at primary health centres (PHCs) in Lagos, Nigeria

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Background: Deployment of Mobile digital Chest X-Ray (CXR) vans equipped with artificial intelligence (CAD4TB) is a joint investment of the State Government and Global Fund to complement other interventions in TB program, to find and treat the missing persons with TB. The CXR intervention will further increase access to free TB screening and treatment as part of the Global Strategy to end TB. Three mobile CXR Vans, equipped with artificial intelligence (CAD4TB) was used for this activity. This provided an opportunity for adequate TB/HIV integration and collaboration at the PHCs.

The objective of this study is to highlight the effectiveness of TB/HIV service integration at the primary healthcare centers, characterized with client referrals to other designated diagnostics centers for evaluations and further follow-up examinations.

Description: The use of the of mobile digital CXR at the PHCs for active TB case finding was conceptualized and conducted from January – December 2024 to address the existing 32% TB notification gaps in Lagos Nigeria. This however, provided an opportunity to adequately screen PLHIV for TB at PHCs. DHIS2 was used to determine the PLHIV currently on Treatment across 8 flagship sites (PHCs) in the State, following facility assessment and advocacy visit. TB Facility Cascade Management Team Meeting were conducted and CXR mobile Vans deployed. WHO 3B TB screening algorithm was adopted. Specimen were collected and sent for GeneXpert test.

Lessons learned: For the A.I supported TB screening among PLHIV, the average TB yield as calculated is 23%, NNS and NNT calculated were 24 and 4 respectively given a better yield compared to the conventional TB screening (symptom screening at 8% TB yield, 123 NNS and 12 NNT calculated respectively.

Type of TB screening (Screening with A.I supported CXR versus Symptom screening)	No. of PLHIV screened for TB with A.I supported CXR mobile machine	No. of TB presumptive among PLHIV	No. of TB presumptive clinically evaluated	No. diagnosed with TB	No. linked to care	% TB yield	No. needed to screen (NNS)	No. needed to test (NNT)
TB screening using A.I supported CXR at PHCs	1,128	203	203	47	47	23%	24	4
Symptom screening at other Secondary facilities	7,898	789	789	64	57	8%	123	12

Table. Comparative Quarterly Data showing the TB Cascade for both AI Supported and Non-A. I supported screening activities.

Conclusions/Next steps: Artificial Intelligence powered Mobile Digital CXR has demonstrated efficiency in TB diagnosis among PLHIV while fostering adequate integration of TB/HIV. Therefore, the expansion of Mobile digital CXR equipped with A.I, will further strengthen this collaboration and improve quality of care among PLHIV in Nigeria.

OAE0605

Ethical concerns and suggested mitigations surrounding access to and use of SMS and social media data in sentiment analysis, for HIV prevention among young women in Western Kenya

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Background: As artificial intelligence (AI) technology gains popularity, innovative smart phone apps based on predictive algorithms are emerging. Moreover, the public is increasingly using these apps to acquire new knowledge, solve problems, and trade goods and services. Given the vast amounts of inter-personal communication via SMS and social-media, AI-driven apps could analyze these data to predict individual behaviors, and health-related risks. We sought to explore the ethical concerns and suggested mitigations in accessing young women's phone data for development of an AI-based tool to assess HIV prevention needs.

Methods: Between February and April 2024, we conducted in-depth interviews (IDIs) with 32 young women aged 18 to 24 who sought sexual and reproductive health services from four public facilities. Half of them were willing to share their SMS and social-media messages for HIV prevention analysis. Additionally, two focus group discussions were held with 11 bioethicists. Ethical concerns were explored through questions covering privacy, confidentiality, autonomy, beneficence, non-maleficence, justice, and power. Data were thematically analyzed using a deductive approach.

Results: Both groups expressed concerns about likelihood of privacy intrusion, risks of accessing third-party and deleted messages, potential for embarrassment, confidentiality breaches and data leaks during algorithm development. Bioethicists were worried about practicality of obtaining true informed consent due to complexity of sentiment analysis.

Young women suggested strict data security measures, such as de-identifying data and involving non-Kenyans in data handling. Bioethicists stressed the importance of carefully developing consent forms through iterative participation to obtain truly informed consent from participants. Some suggested exploring the feasibility of using public social media data, instead of personal data, to develop the AI-based HIV risk assessment tool prototype. Bioethicists recommended ethical bodies to define guidelines and legal thresholds for allowable confidentiality breaches in cases involving discovery of criminality.

Conclusions: These findings offer data access insights for researchers designing AI-driven prediction tools for HIV prevention and other health-related behaviors: to help with upholding critical ethical principles including privacy, confidentiality, and non-maleficence. Ethical review boards should define minimum standards for participants' protection in research employing sentiment analysis, as it is crucial for the proposed app and similar future tools.

Poster exhibition

HIV virology

TUPEA007

HIV-1 unlocks a non-classical mode of viral entry in CD4 negative cells

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Background: Despite improvements in HIV-1 therapies drug treatment failure and the inability to target latent viral reservoirs remain major limitations. Infection generally requires HIV recognizing the primary receptor CD4, followed by binding to either of the chemokine coreceptors, CXCR4 or CCR5. This binding mode enables cell entry by HIV gp41 fusion with the cell membrane. Investigators have believed for some time that initial binding to CD4 is required for HIV-1 infection. However, studies have shown that HIV-1 can enter cells lacking CD4 although this remains controversial, and the mechanisms are unclear.. This study aims to identify a model CD4-negative cell line that is infectable with HIV-1 to study alternate entry mechanisms and determine whether CD4-negative cells can act as latent viral reservoirs.
Methods: CD4-negative human osteosarcoma (HOS) cells expressing either coreceptor were infected with an envelope-pseudotyped, luciferase or GFP reporter HIV-1.; JR-FL-envelope for CCR5+ and HXB2-envelope for CXCR4+ cells. These cells were confirmed to be CD4 negative through flow cytometry, mRNA expression & the use of a CD4 blocking antibody (Ibalizumab) during infection assays.
Results: We found that HIV-1 can infect HOS cells, as demonstrated by post-infection luciferase and GFP expression that was blocked by the integration inhibitor Raltegravir. Infection in HOS cells is resistant to Ibalizumab but susceptible to coreceptor blockers, suggesting that infection is CD4 independent but coreceptor dependent. These results suggest that in the absence of the CD4 receptor, HIV-1 uses an alternative mechanism for viral entry into HOS cells.
Conclusions: Further studies will examine infected GFP positive cells, including single-cell RNA sequencing, determining mechanisms used for viral entry, and the use of a red/green reporter virus to investigate latency. Deepening our understanding of viral entry into CD4-negative cells may help identify unknown viral reservoirs, improve HIV-1 therapeutics, and contribute to finding an eventual cure.

HIV pathogenesis

TUPEA008

Gene expression analysis of anorectal biopsies in PLWH receiving cART

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Background: Persistent gut inflammation, observed even in PLWH receiving ART, is closely associated with ongoing HIV replication, disruption of the gut epithelial barrier, and microbial translocation. Indeed, gastrointestinal symptoms remain a significant and highly prevalent clinical feature in this population, even in the context of ART. This study aims to evaluate differences in gut mucosal gene expression in PLWH undergoing cART.
Methods: Sixty-six PLWH on successful cART were included in the study and stratified based on both CDC clinical stage and therapy regimen. Anorectal biopsies were analyzed to assess gene expression of 14 structural genes and 14 immune-related genes by RT-PCR. Non-parametric tests were employed to compare gene expression results across groups.
Results: Considering CDC classification, PLWH in stage C (n=6), compared to individuals in stage A (n=44), displayed downregulation of tight junction-related genes *CLDN3* (p=0.04), *CLDN7* (p=0.01), and *CLDN15* (p=0.04), indicating potential compromised structural integrity of the gut epithelium.
Additionally, *TJP3*, another critical gene associated with tight junctions, was significantly downregulated in stage C (p=0.05), with similar reduction observed when comparing individuals in stage B (n=16) to stage A (p=0.05). Furthermore, *IL-17A*, a pro-inflammatory cytokine, was upregulated in stage C (p=0.04), suggesting an increase in immune activation.
When comparing therapy regimens, the INSTI-treated individuals (n=46), compared to the non-INSTI (n=20), reported a reduction in *CLDN2* expression (p=0.04) and an upregulation of *CLDN4* (p=0.02), suggesting changes in epithelial barrier dynamics. Immune-related genes also displayed notable differences, with *β-defensin 1* (p=0.02) and *IL-1β* (p=0.04) being upregulated in INSTI-treated individuals, indicating heightened antimicrobial and inflammatory responses.

Additionally, in the INSTI group *MAPK3* was significantly downregulated (p=0.001), while *STAT6* was upregulated (p=0.001), highlighting potential shifts in signaling pathways involved in inflammation and immune regulation.
Conclusions: Our data suggest that PLWH in stage C may experience heightened immune responses alongside compromised epithelial barrier function, potentially exacerbating gastrointestinal dysfunction.
Moreover, the observed differences between INSTI and non-INSTI groups highlight the molecular effects of INSTI-based regimens on gastrointestinal function. Further studies are needed to investigate the clinical significance of these findings.

Host immune responses

TUPEA009

B-cell repertoire diversity in individuals living with HIV in a Southern African cohort: implications for vaccine design

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Background: Deep sequencing technologies have greatly advanced the study of human antibody repertoires, providing valuable information for developing therapeutic antibodies and effective HIV vaccines. However, a comprehensive understanding of the human antibody repertoire in African populations, where HIV prevalence is high, remains limited.
This study aims to evaluate the presence of broadly neutralizing antibody (bnAb)-like features in B-cell repertoires from an African cohort.
Methods: We sequenced the immunoglobulin genes of heavy and light chains from cryopreserved peripheral blood mononuclear cells (PBMCs) obtained from twenty women aged 18 to 23. Baseline samples were collected from all participants, with additional longitudinal samples taken from those who became people living with HIV (PLWH). Among these, ten PLWH had longitudinal samples available at three key time points: before HIV detection, after detection before antiretroviral therapy (ART) initiation, and after ART initiation. This cohort included five individuals who initiated ART during the chronic phase of HIV acquisition (late-treated) and five who began treatment immediately following HIV detection (early-treated).
Results: The deep sequencing analysis of immunoglobulin heavy and light chain genes (IgM and IgG repertoires) revealed a preferential usage of specific immunoglobulin gene segments, including IGHV3-30, VH4-59, and VH4-39, as well as D3 and J4 segments. Notably, the alleles IGHV3-30*02 and IGHV3-30*04 were abundantly utilized across all groups; however, they exhibited significant depletion in the late-treated group.
Furthermore, these alleles were associated with longer CDRH3 regions (≥20 amino acids) in the early-treated group compared to the negative group, suggesting a potential impact of HIV disease on the antibody repertoire. Additionally, a high frequency of DH3-10 and DH3-22 gene alleles were observed across groups. The analysis also examined the precursor frequencies of rare VRC01-class B cells in selected donors, given that immunogens designed to elicit VRC01-class broadly neutralizing antibodies (bnAbs) are currently in advanced clinical development.
We confirmed the presence of IGHV1-2 alleles compatible with VRC01-class responses across all groups in this cohort, with a more pronounced prevalence observed in the late-treated group.
Conclusions: Overall, this study informs strategies for individuals without HIV and those living with HIV, advancing understanding of antibody diversity and vaccine development.

TUPEA010

Distinct CD8 T cell immune profiles in people living with HBV and HIV/HBV co-infection

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Background: Chronic hepatitis B (HBV) infection remains a significant health challenge with a disproportionally high burden among people with HIV. However, people with HBV/HIV co-infection are often excluded from clinical trials, creating a critical gap in addressing their needs within the HBV-cure agenda. CD8 T cell responses are important for viral control, yet these responses are traditionally thought to be more compromised in people with co-infection. This study aimed to investigate the phenotypic and functional profiles of CD8 T cells in people with HIV/HBV vs HBV mono-infection under long-term therapy, to identify potential new immunotherapy targets that could bolster antiviral responses.
Methods: We performed a comprehensive analysis at the single-cell level of CD8 virus-specific responses in 62 participants (HBV (n=20), HIV mono-infection (n=21), and HBV/HIV co-infection (n=21)). All participants were virally suppressed

on antiviral therapy with dual activity against both viruses. Virus-specific responses were evaluated following stimulation with overlapping HIV and HBV peptide pools.
Results: In individuals with HIV/HBV co-infection, we observed a significant increase in terminally differentiated subsets ($CCR7^{-}CD45RA^{+}$) and a decrease in naïve T cells ($CCR7^{+}CD45RA^{+}$), resembling changes in those with HIV mono-infection. Transcriptomic analysis revealed enhanced activation of pathways linked to T cell receptor and PD-1 signalling in co-infection compared to HBV mono-infection. Proteomic profiling showed intrinsic exhaustion differences, highlighting a paradoxical increase in terminally exhausted $Tox^{high}TCF\text{-}1^{-}CD127^{-}CD8$ T cells in people with HBV mono-infection.
Conversely, people with HIV/HBV co-infection exhibited a distinct effector memory cluster with high granzyme B and CD127 expression, suggesting cytotoxic potential and stem-like properties, along with increased frequencies of precursor exhausted CD8 T cells. These differences were associated with more robust, and polyfunctional HBV-specific CD8 T cell responses in HBV/HIV co-infection against HBV surface and core, compared to HBV mono-infection
Conclusions: Our study provides the first evidence that people with HIV/HBV, in the current ART era, display functional CD8 T cell responses, despite the 'scar' of chronic infection. These findings underscore the benefits of early antiviral therapy and the importance of tailored immunotherapies to revitalize antiviral responses in different patient groups.

TUPEA011

Novel broadly neutralizing antibodies isolated using HIV-1 trimers from difficult-to-neutralize isolates

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Background: Emerging resistance to existing broadly neutralizing antibodies (bNAbs) in circulating HIV-1 variants may compromise the efficacy of these bNAbs used as prophylactics. Therefore, new bNAbs that are effective against difficult-to-neutralize strains are needed. We show the use of a soluble envelope (Env) trimer, derived from a difficult-to-neutralize HIV-1 strain, to isolate novel bNAbs from a donor with a broadly neutralizing plasma response.
Methods: Using pseudovirus-based neutralization assays, 183 African viruses were screened against various bNAbs. We identified the FRESH1388 isolate, which was resistant to multiple bNAb classes. A soluble Env trimer, based on this strain, was designed, expressed in mammalian cells and purified by affinity and size-exclusion chromatography. The trimer was further characterised by antibody multiplex binding assays and electron microscopy. Using the FRESH1388 trimer, B cells were sorted for antibody isolation from CAPRISA participant CAP287, who developed neutralization breadth. Isolated B cells were sequenced and the antibodies were screened against a heterologous six-virus panel, which predicts breadth against larger viral panels, and the epitope specificity was mapped by binding assays using antigens with mutated epitopes.
Results: The FRESH1388 isolate was resistant to bNAbs from all epitope classes, except the V3-glycan. The trimer was antigenically similar to the pseudovirus and confirmed to be in the closed conformation. Paired heavy and light chain sequences were recovered for 104 B cells, sorted using the FRESH1388 trimer. Isolated antibodies were from several clonal families, with the largest having a rarely used germline gene, VH3-13. Ten antibodies were selected, based on clonal families, percent somatic hypermutation (>20%), CDRH3 lengths (>20 residues) and neutralization screening data, for functional characterisation. Four antibodies, from different lineages, that had neutralization breadth up to 50%, were identified. Epitope mapping of these antibodies indicated that they were either N332-dependent or V2-apex targeting.
Conclusions: Four bNAbs, from different lineages, were isolated using a trimer from a difficult-to-neutralize HIV-1 strain. These bNAbs had different epitope specificities and levels of breadth. This study shows that trimers derived from difficult-to-neutralize strains can be used as highly selective sorting baits, enabling the isolation of novel bNAbs from participants with broadly neutralizing plasma responses.

TUPEA012

Impaired glucose and fatty acid uptake in monocytes and CD8+ T cells of people living with HIV

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Background: Cellular metabolism is a major determining factor in immunological function with implications for antiviral immunity. Metabolic dysfunction in people living with HIV (PLWH) has been associated with non-AIDS-related conditions. However, the metabolic profiles of in-

nate immune cells in PLWH, particularly HIV controllers, are poorly reported in a South African setting. Therefore, we investigated the metabolic profiles of innate immune cells in PLWH.

Methods: We recruited 52 Black South Africans, including HIV-elite controllers (n=11), HIV-progressors (n=10), PLWH on antiretroviral therapy (ART) (n=18) and HIV-uninfected persons (n=13).

Upon voluntary consent, blood was collected and peripheral blood mononuclear cells (PBMCs) were isolated. Metabolic substrate uptake, mitochondrial health and Glut1 expression were assessed in the study participants' T-cells and innate immune cells.

Glut1 antibody for glucose transporter expression, fluorescently tagged metabolites 2-NBDG (2-[N-(7-nitrobenz-2-oxa-1,3-diazol-4-yl) amino]-2-deoxy-D-glucose) and BODIPY FL C_{16} (4,4-Difluoro-5,7-Dimethyl-4-Bora-3a,4a-Diaza-s-Indacene-3Hexadecanoic-A) for glucose and fatty acid uptake, and Mito Trackers Green and Deep Red for mitochondrial mass and membrane potential were measured by multicolour flow cytometry.

Results: HIV-elite controllers exhibited reduced glucose uptake in monocytes compared to HIV-uninfected individuals (p=0.04) and PWH-ART (p=0.004). Glut1 expression was lower in CD8+ T cells of HIV-progressors compared to HIV-elite controllers (p=0.05) and HIV-uninfected individuals (p=0.03).

Additionally, CD8+ T cells in treatment-naïve HIV-progressors showed reduced glucose uptake compared to ART-treated PWH (p=0.05). Fatty acid uptake was lower in monocytes of HIV-progressors compared to PWH-ART (p=0.0002) and HIV-uninfected individuals (p=0.02).

No significant differences in mitochondrial mass were observed between groups. Glucose uptake positively correlated with tumour necrosis factor-α (r=0.34, p=0.04) and interferon-α (r=0.34, p=0.03) production in monocytes of PLWH.

Conclusions: Innate immune cells in PLWH exhibit metabolic dysfunction demonstrated by impaired uptake of essential metabolites. These metabolic irregularities were also observed in HIV-elite controllers, despite spontaneous viral control, and may contribute to non-AIDS-related conditions.

Understanding and targeting persistent HIV reservoirs

TUPEA013

Factors associated with HIV-1 DNA dynamics in early treated children with perinatal HIV

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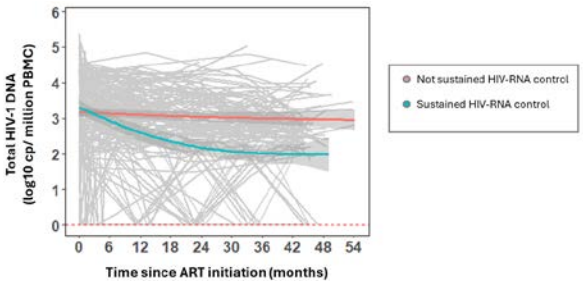
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Background: This study analyzed the total HIV reservoir, serially for 4 years, in African children who started ART early in life and identified factors associated with reservoir size dynamics.

Methods: Participants were infants from the EARTH-EPIICAL Cohort established in South Africa, Mozambique, and Mali where HIV was diagnosed shortly after birth followed by early ART initiation. Total HIV-1 DNA was analyzed longitudinally in all 208 participants, from ART initiation to 4 years (or death or loss to follow-up), from PBMCs by droplet digital PCR.

Results: 155/208 (74%) had a follow-up >12 months and were analyzed. ART was initiated at a median of 34 days [IQR, 26-73] with median follow-up time of 44.1 months [IQR 37.6-45.5]. A total of 19/155 (12%) children achieved undetectable HIV-1 DNA after 4 years of follow-up. Overall, total HIV DNA levels decreased over time from pre-ART to 4 years post-ART. The median decay slope was -0.020 [IQR:-0.042 to 0.00] log10 total HIV-1 DNA copies/mL per month (-0.212 [IQR:-0.503 to 0.077] per year). A total of 114/155 (73.6%) presented a negative slope, decreasing their HIV-DNA over time, and 38/155(24.5%) a positive slope. Determinants of faster HIV-1 DNA decay were lower pre-ART viral load (p<0.001) and region (Mali, p=0.001).

Children with who achieved sustained viral load undetectable for >12 months showed a faster virological decay (figure).Factors associated with a smaller reservoir after 3 years of ART were lower pre-ART viral load (p<0.01), faster rate of total HIV-1 DNA decay in the first year (p<0.05) and female sex (p<0.05).



Conclusions: Early virological parameters such as pre-ART viral load and initial HIV-1 DNA decay rate are important predictors of total viral reservoir size in early treated children living with HIV. A smaller reservoir in females highlights that sex differences should be explored to understand mechanisms of HIV reservoir control.

Novel treatment and prevention strategies, vaccines and immunotherapies

TUPEA014

Broadly neutralizing antibody VRC07-523LS persists at four months in mucosal tissue following intravenous administration at 10mg/kg and 30mg/kg (HVTN128)

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Background: Effective concentrations of broadly neutralizing antibodies (bnAbs) are likely needed in mucosal tissues to protect against HIV-1 sexual exposure. VRC07-523LS, was infused intravenously (IV) every four months, and serum, rectal, seminal cervical, and vaginal VRC07-523LS levels were measured in male and female sex assigned at birth (MSAB and FSAB) individuals.
Methods: Twenty-four participants without HIV (13 MSAB and 11 FSAB,) from the US received VRC07-523LS (10mg/kg or 30mg/kg IV) at months 0, 4 and 8. Paired serum, rectal and cervicovaginal secretions, rectal, cervical and vaginal biopsies, and semen, were collected pre-infusion, 2 weeks after the first infusion, and 2 and 16 weeks post-third infusions.
VRC07-523LS levels were examined using SMCxPro (mucosal) and Binding Antibody Multiplex Assay (serum). VRC07-523LS concentrations were normalized to total IgG (Bioplex), to compare across compartments. Mucosal penetration percentages vs serum were calculated after total protein (Quant-it) normalization.
Results: VRC07-523LS was detectable in serum at all post-baseline timepoints (all p<0.001). In rectal, cervical and vaginal biopsies, semen and cervicovaginal secretions, VRC07-523LS was detectable 2 weeks and 16 weeks post-infusion in 80% of participants. VRC07-523LS was not detected above baseline levels in rectal secretions at any timepoint.
At 2 weeks post VRC07-523LS infusion, the 30mg/kg dose was 2.1-2.5 times higher in serum (p<0.001), 2.6-3 fold higher in rectal tissue (p<0.001) and 1.8-3.9 times higher in cervicovaginal secretions (p=0.014) than the 10mg/kg dose.
However, serum VRC07-523LS levels rarely correlated with those of mucosal compartments collected at the same timepoint.
Body weight-adjusted VRC07-523LS serum levels trended higher in FSAB than MSAB (p=0.052). VRC07-523LS levels in FSAB rectal biopsies were 1.9-fold higher than MSAB (p<0.001).
Rectal biopsy penetration was higher in FSAB (10mg/kg: 15.2%of serum; 30mg/kg: 22.3%; p=0.015) compared with MSAB (9.9% and 11.9% respectively).
Conclusions: Except for rectal secretions, both doses of VRC07-523LS reach mucosal compartments and persist four months post-third infusion in most participants, suggesting this dosing regimen provides detectable bnAb trough levels. In rectal biopsies, FSAB have higher VRC07-523LS than MSAB, suggesting a sex-specific difference in mAb penetration and accumulation.
Persistence of passively infused VRC07-523LS in the mucosa supports the use of this bnAb in HIV-1 prevention and treatment.

Emerging, re-emerging and neglected virus: epidemiology, pathogenesis, host immune responses, vaccines, immunotherapies and overlap with HIV acquisition

TUPEA016

SARS-CoV-2 infection induces pro-fibrotic and pro-thrombotic lipid-laden foam cell formation

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Background: COVID-19 and Long COVID are characterized by a dysregulated immune response and macrophages are an important aspect of this pathological immune response.
Methods: A clinical isolate of SARS-CoV-2 (2019-nCoV/USA-WA1/2020) was obtained from the US Centers for Disease Control and Prevention (GenBank accession MN985325.1) and passaged twice in Vero E6 cells to create a passage-5 working stock. Infectious virus clones were used to derive wild-type SARS-CoV, MERS-CoV (HCoV-EMC/2012),

SHC014-CoV, and WIV1-CoV. Viruses were titered on Vero E6 (SARS-CoV, SHC014-CoV, and WIV1-CoV) or Vero CCL81 cells (MERS-CoV). SARS-Cov-2 infected LoM human lung tissues analyzed at days 2, 6, and 14 post-exposure and analyzed following EIDD-2801 or vehicle. Human lung tissue collected from uninfected LoM and SARS-CoV-2 infected LoM at 2- and 6-days post exposure from previously published experiments were fixed, paraffin embedded, and sectioned (5µm). Tissue sections were deparaffined and stained overnight according to NanoString Technologies GeoMX Digital Spatial Profiler (DSP) Leica protocol.

Results: We demonstrate that SARS-CoV-2 infection induces macrophage proliferation and the extensive formation of enlarged lipid-laden macrophages or foam cells. These results were confirmed using three different *in vivo* models of SARS-CoV-2 infection: humanized mice implanted with human lung tissue, non-human primates, and post-mortem human lung tissue.

Notably, under our experimental conditions, this effect was not observed for the other coronaviruses tested. Infection by SARS-CoV-1, MERS-CoV, and two bat coronaviruses did not result in macrophage proliferation or the formation of foam cells. Foam cells in SARS-CoV-2 infected human lung tissue display a pro-fibrotic and pro-thrombotic phenotype. After viral clearance, macrophage numbers remain elevated, and lung fibrosis and thrombi persist.

Importantly, we show that pre-exposure prophylaxis or early treatment with a SARS-CoV-2 antiviral prevents SARS-CoV-2-induced macrophage proliferation, foam cell formation, collagen deposition, and smooth muscle actin production in lung tissue.

Conclusions: We postulate that SARS-CoV-2 infection induces the proliferation of lung macrophages and the production of foam cells with a pro-fibrotic and pro-thrombotic phenotype that populate alveolar spaces. These observations highlight the contribution of macrophages to the development of inflammation and tissue injury leading to the pulmonary fibrosis observed in COVID-19 patients.

Course of HIV disease

TUPEB017

Recurrent interruptions in treatment threaten the sustainability of gains in the third 95 in a country at 95-95-95

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Background: The Eswatini HIV program reports that interruption in treatment (IIT) has remained between 4-6% on a quarterly bases in Manzini and Lubombo regions over the last four years, regardless of introduction of new interventions to sustain the gains in the 95-95-95 targets. This could partly be due to recurrence in interruption by the same clients.

This study measured the rate of recurrent IIT among clients on antiretroviral therapy, its predictors, and its effect on viral load (VL) outcomes.

Methods: We conducted a prospective cohort study using programmatic data of clients who interrupted treatment between October 2020 and March 2021 in 84 facilities. The clients were followed for 36 months to March 2024 to observe if they reengaged in care and recurrently interrupted.

We collected VL results within the last 12 months prior to interruption and within 12 months by the end of the follow-up. Binary logistic regression analysis was used to identify predictors of recurrent IIT and unsuppressed VL.

Results: A cohort of 3928 clients who had interrupted treatment were followed, 16.7% (n=655) did not return to treatment. More than a fifth of the IIT clients recurrently interrupted treatment, an IIT recurrence rate of 22.7% (n=744) in 36 months.

Of the recurrent IIT clients, 63% (n=469) had interrupted treatment three times. The unsuppressed VL rate was higher (5.2%, n=18) among recurrent IIT clients than non-recurrent IIT clients (1.0%, n=17).

Clients likely to recurrently interrupt treatment are those receiving ART services in Public Health Units (facilities for maternal-child health services) (AOR:1.8 [95%CI:1.1-2.9], p=0.016); aged 15-29 years (AOR:1.5 [95%CI:1.1-2.0], p=0.007), or have switched ART-regimen (AOR:1.8 [95%CI:1.4-2.4], p<0.001).

Recurrent IIT clients were four folds more likely to be virally unsuppressed than non-recurrent IIT clients (AOR:4.1 [95%CI:1.8-9.4], p=0.001), and those who had an unsuppressed VL when they initially interrupted treatment[PM(1] were 10 folds more likely to have an unsuppressed VL (AOR:10.7 [95%CI:4.0-18.7], p=<0.001).

Conclusions: IIT recurrence is a challenge in the second 95, and recurrent IIT clients are more likely to be virally unsuppressed than non-recurrent IIT clients who reengage in care.

Cure interventions and other strategies and therapies

TUPEB018

Clinical outcomes 5 years after brief analytical treatment interruption among individuals who initiated antiretroviral therapy during acute HIV infection

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Background: Understanding long-term outcomes after analytical treatment interruption (ATI) is crucial for designing safe HIV cure trials. We report long-term outcomes in Thai ATI participants.

Methods: We evaluated 212 adults who initiated ART during Fiebig I-V acute HIV infection (AHI) in Bangkok, Thailand. Seventy-two (34%) had undergone trials with brief ATI (median duration off-ART: 34 days) and ART resumption at plasma viral load (VL) >1000 copies/mL.

Their laboratory (CD4+ and CD8+ T-cell counts, plasma VL) and mood outcomes (Patient Health Questionnaire 9 [PHQ-9] score) at the first assessment following ART resumption with HIV re-suppression (T1), and five years later (T2) were compared to corresponding outcomes of control participants who met eligibility criteria but declined to participate in ATI, matched by ART duration since AHI.

Incidence density rates (IDRs) and 95% confidence intervals (CIs) of HIV blips (VL 20-999 copies/ml), viral failure (VL ≥1000 copies/ml), and Grade III or above adverse events (AEs) occurring between T1 and T2 were compared between groups.

Results: At T1, ATI participants trended towards younger age than control participants (p=0.054) but were similar in other characteristics *(Table)*.

Between T1 and T2, ATI participants exhibited no significant differences in changes in CD4+ and CD8+ T-cell counts, CD4/CD8 ratio, or PHQ-9 scores compared to controls (all p>0.05). They also demonstrated comparable IDRs of blips (3.87 [95%CI 2.33-6.04] vs. 4.02 [95%CI 2.80-5.58] per 100 years follow-up (/100YFU), p=0.931), viral failure (1.22 [95%CI 0.45–2.66] vs 1.95 (95%CI 1.14–3.12)/100YFU, p=0.522), and grade III or above AEs (IDR: 8.55 [95%CI 6.16-11.55] vs. 10.56 [95%CI 8.51-12.94]/100YFU, p=0.419) compared to controls. One participant succumbed to depression-related suicide 3.8 years after ATI.

	Control (n=140)	ATI Participants (n=72)	p-value
Age, year	31 (27-36)	28 (25-34)	0.054
Male, n (%)	133 (95)	70 (97)	0.721
T-cell Parameters			
CD4 T-cell count, cells/mm3	716 (575-863)	677 (547-739)	0.179
CD8 T-cell count, cells/mm3	608 (472-801)	570 (460-792)	0.819
CD4/CD8 ratio	1.15 (0.92-1.48)	1.18 (0.87-1.42)	0.494
Plasma HIV suppression (<20cps/ml), n (%)	136 (97)	72 (100)	0.302
Duration since Acute HIV Infection, years	3.2 (2.8 – 4.5)	3.4 (2.8 – 4.5)	0.572
Patient Health Questionnaire 9 Total Score (Range 0-27)	5 (2-8)	4 (2-6.5)	0.281
ART Regimen, n (%)			0.047
2NRTIs+DTG	89 (64)	33 (46)	
2NRTIs+EFV	41 (29)	31 (43)	
Others	10 (7)	8 (11)	

Median (Interquartile range) is presented unless specified.
Abbreviations: ART: Antiretroviral therapy; ATI: Analytical Treatment Interruption

Table. Participants Demographics upon Achieving HIV Resuppression Following ATI and ART Resumption (T1).

Conclusions: ATI participants in the RV254 study exhibited similar laboratory outcomes and AEs compared to controls five years after viral resuppression with ART, demonstrating the long-term safety of brief and closely monitored ATI trial participation.

ART resistance

TUPEB019

Three-years outcome after genotyping-guided switch in HIV multi-drug resistant clients in Cameroon: evidence-based strategies for achieving epidemic control in low-and middle-income countries

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Background: Monitoring of HIV-acquired clients with long-term treatment remains challenging in low- and middle-income countries (LMICs) due to risks of multi-class HIV drug resistance (HIVDR). Following a personalized strategy, we sought to evaluate the treatment response among clients with multi-class HIVDR following genotypic resistance guided switch in Cameroon.

Methods: A cohort-study was conducted in the South-West region of Cameroon among clients failing first- and second-line antiretroviral treatment (ART) (i.e. non-nucleoside reverse transcriptase inhibitors (NNRTI)- and protease inhibitor (PI)-based) from 2018-2023.

Following HIV-1 genotypic resistance testing (GRT), clients were switched to most-effective therapies and viral load (VL) was monitored after 3-, 6-, 12-, 24-, and 36-months. Data analysis used Epi Info v.7.2, with $p<0.05$ considered statistically significant.

Results: From the 336 clients failing ART in the region, 170 (50.6%) presented with GRT results; from these, 72 were further lost-to-follow-up, 12 died and 5 defaulted, giving 81 study-inclusions (57.5% females; 47/81). Before GRT, the median CD4 and VL were 232.5 [161.25–401.25] cells/µL and 54,480 [13,932.5–220,153] copies/mL respectively; with 65.4% (53/81) participants failing PI-based versus 34.6% (28/81) failing NNRTI- and dolutegravir (DTG)-based first-line ART. Overall HIVDR rate at failure was 60.5%, and prevailing mutations were M184I/V (26.1%), K103N/S (20.7%) and M46I/L (32.8%) for NRTI, NNRTI and PI respectively; with CRF02_AG as the prevailing viral clade (71.4%).

Following GRT, AZT+3TC+(LPV/r or ATV/r) (26.4%) was mostly recommended, followed by TDF+3TC+DTG+DRV/r (12.4%). Monitoring data revealed that 92.6% (75/81) of the participants respected the prescribed regimen.

Viral suppression (VL<1000copies/ml) post-GRT was 80% at 3-months, 84.8% at 6-months, 81.4% at 12-months, 93.7% at 24-months and 86.7% at 36-months. Prescription of DTG-based regimen was the only determinant of good virological response (p=0.04).

Furthermore, DTG-based regimens yielded significantly higher responses than DTG-sparing regimens up till 24-months (p=0.013, p=0.0015, p=0.0005, p=0.02 respectively).

Conclusions: Our findings highlight maintained viral suppression over three years, following GRT-guided switch in individuals with multi-class HIVDR, with DTG-based regimens yielding a higher outcome. This underscores the significance of personalizing ART management for difficult-to-treat people to achieve HIV control by 2030 in LMICs.

HIV and ageing

TUPEB020

Evaluation of differences in online drug-drug interaction tools among adults living with HIV

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Background: To prevent harm, the identification of drug-drug interactions (DDI) is an important part of HIV care. Multiple databases for identifying DDI are available, there is scarce information in HIV treatment. This study aimed to compare the frequency of clinically significant DDI using two online DDI databases in a cohort of adults living with HIV (AHIV).

Methods: We evaluated all medications (use ≥30 days) self-reported at baseline visit by the Mexican participants included in the Sentinel Research Network (SRN) from IeDEA (International Epidemiology Databases to Evaluate AIDS). We described the frequency of DDI classified as: weak, potential and contraindicated by Liverpool HIV Drug Interactions®; and, as minor, moderate and major by Drugs.com®. Categories were considered equivalent between databases. Using Fleiss kappa statistics, we es-

timated the concordance of the results obtained. An ID physician evaluated the corresponding interactions levels, selected those clinically significant and reviewed the drugs and potential clinical effects reported.

Results: In 200 participants, 102 (51%) took concomitant medications besides ARVs. Most were male (n=91, 89.2%) with a median age of 54 years, and 94 (92.1%) had at least one comorbidity. With Liverpool®, there were 61 DDI: 19 weak interactions, 42 potential, and zero "contraindicated"; while with Drugs.com® there were 91 DDI: 9 minor, 61 moderate, and 21 majors. The concordance between databases was poor: κ of 0.08 (SE 0.06 95% IC: -0.03 – 0.21); there was no concordance in those classified as weak/minor or major/contraindicated; only 7 were similar in the moderate/potential DDI. From the clinically significant DDI, the more frequent clinical effects were risk of QT prolongation (n=17/28, 60.7%); acute kidney failure (n=4, 14.2%); rhabdomyolysis and reduction of ARV levels (n=2, 7.1%). The drugs more frequently related to major/contraindicated DDI were: efavirenz and psychiatric drugs.

Conclusions: In this cohort, the frequency of major/contraindicated DDI were different between databases (0 by Liverpool® and 21 by Drugs.com®) and, these were clinically significant, showing a poor concordance between databases. In the era of a growing number of AHIV and polypharmacy, identification of better tools to assess DDI is needed. A clinical evaluation of the DDI is important for intervention.

TUPEB021

Co-morbidities in HIV positive and HIV negative individuals aged ≥60 years: a comparative analysis

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Background: Age-related co-morbidities are increasing among people living with HIV (PLWH)and impact treatment choices and outcomes. We report the prevalence of non-HIV co-morbidities in older PLWH (≥60 years) and age- and gender-matched HIV negative (HN) individuals.

Methods: Data from participants in the B/F/TAF Elderly Study (which enrolled virally suppressed PLWH ≥60 years on first line antiretroviral therapy and randomised them to continue their current regimen or switch to B/F/TAF) and an age- and gender-matched HN group were included. We assessed body mass index (BMI), blood pressure (BP), fasting blood sugar and lipids, estimated glomerular filtration rate (eGFR), lumbar and femoral neck bone mineral density (BMD), thoracolumbar vertebral fractures and Fried frailty phenotype. We compared the prevalence of co-morbidities and concomitant medications at enrolment into this 5-year study.

Results: Between February 2022 and 2024, 520 participants were enrolled into the B/T/TAF Elderly Study and a subset of 296 underwent DXA, vertebral X-rays and frailty assessment, along with 122 HN participants. All participants were black, the median age in both groups was 64 years (range 60-79), 267 (51.3%) PLWH and 61 (50%) HN were female. There was no difference in median BMI, hypertension, hyperglycaemia or frailty between groups (Table).

The median total cholesterol and LDL were higher in the HN group. Substantially more PLWH had eGFR <60mL/min/1.73m^3 (33% PLWH, 10% HN, p<0.001). Median lumbar spine BMD was lower in PLWH (0.87g/cm^2 PLWH, 0.95g/cm^2 HN, p<0.001) but there was no difference in thoracolumbar vertebral fractures (20% PLWH, 18% HN, p=0.635). More PLWH had ≥1 comorbidity (78% PLWH, 58% HN, p<0.001) and ≥1 non-ARV medication (99% PLWH, 28% HN, p<0.001).

Characteristic	PLWH N = 520	HIV Negative (HN) N = 122	Overall N = 642	P-Value
Body Mass Index, kg/m^2	26.4 (23.2, 30.1)	27.4 (24.6, 30.4)	26.6 (23.6, 30.1)	0.233
Hypertension	292 (56.2%)	46 (54.8%)	338 (56.0%)	0.812
Hyperglycemia	39 (7.5%)	13 (10.7%)	52 (8.1%)	0.239
Lipids				
LDL, mmol/L	2.8 (2.3, 3.5)	3.2 (2.7, 3.8)	2.90 (2.3, 3.5)	<0.001
Total cholesterol, mmol/L	4.5 (3.9, 5.3)	5.2 (4.6, 5.9)	4.63 (4.0, 5.4)	<0.001
Impaired kidney function (defined as eGFR < 60 mL/min/1.73m^2)	172 (33.1%)	12 (9.8%)	184 (28.7%)	<0.001
Bone (N=418)				
• BMD lumbar spine, g/cm^2	0.87	0.95	0.89	
• Thoracolumbar vertebral fractures (≥1)	(0.78, 0.99)	(0.82, 1.08)	(0.80, 1.02)	<0.001
• BMD category (using lumbar spine T-score)	48 (20.3%)	15 (17.9%)	63 (19.6%)	0.635
normal	91 (30.8%)	50 (46.7%)	148 (35.5%)	
Osteopenia	114 (38.6%)	41 (33.6%)	155 (37.2%)	0.005
Osteoporosis	90 (30.5%)	24 (19.7%)	114 (27.3%)	
Frail (≥ 3 frailty criteria) (N=418)	5 (1.7%)	2 (1.6%)	7 (1.7%)	>0.999
Number of comorbidities				
0	114 (21.9%)	51 (41.8%)	165 (25.7%)	
1	240 (46.2%)	37 (30.3%)	277 (43.1%)	
2	111 (21.3%)	26 (21.3%)	137 (21.3%)	<0.001
3	41 (7.9%)	6 (4.9%)	47 (7.3%)	
4	13 (2.5%)	2 (1.6%)	15 (2.3%)	
≥5	1 (0.2%)	0 (0.0%)	1 (0.2%)	
Number of concomitant medications (excluding ARVs)				
0	3 (0.6%)	88 (72.1%)	91 (14.2%)	
1	344 (66.2%)	20 (16.4%)	364 (56.7%)	<0.001
2	93 (17.9%)	9 (7.4%)	102 (15.9%)	
3	52 (10.0%)	4 (3.3%)	56 (8.7%)	
≥4	28 (5.4%)	1 (0.8%)	29 (4.5%)	

Table: comorbidities in PLWH compared to HIV negative individuals ≥60 years

Conclusions: PLWH compared to HN had more co-morbidities, medication burden and kidney impairment and osteoporosis. These findings highlight the burden of co-morbidities among older PLWH.

Diagnostic and monitoring tools

TUPEB022

Viral load monitoring during pregnancy and postpartum in the Western Cape province, South Africa, 2018-2021

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Background: Because sustained viral suppression is important in preventing vertical HIV transmission, adequate viral load (VL) monitoring during pregnancy and breastfeeding is crucial. Guidelines for improved VL monitoring were introduced in South Africa in early 2020, whereby, in addition to antenatal VL monitoring, mothers on antiretroviral therapy (ART) should have VL testing at delivery and 6 months thereafter.
Concurrently, dolutegravir-based regimens were introduced as preferred first-line ART (vs efavirenz-based), and strict national COVID-19 lockdown measures were implemented from March 2020.
Methods: We included mothers living with HIV in the Western Cape province, South Africa, who delivered live-born infants between May 2018 and April 2021, and initiated ART before/during pregnancy. We used logistic regression to compare differences in VL monitoring and proportion with unsuppressed VL (>1,000 copies/ml) among women who delivered before vs after guidelines changed (Era 1: 2018-2019 vs Era 2: 2020-2021), adjusted for maternal age and timing of maternal ART start relative to pregnancy.
Results: We included 46,860 deliveries (Era 1: 25,264; Era 2: 21,596). Mothers started ART before (72%) or during pregnancy (28%). Among mothers who started ART >3 months before delivery (n=43,555), late pregnancy testing was more likely during Era 2 than 1 (85% vs 75% coverage; aOR 1.93; 95%CI 1.83-2.03), and of those tested, unsuppressed VL was more likely in Era 2 than 1 (10% vs 9%; aOR 1.09; 95%CI 1.01-1.17).
Among all mothers, postpartum testing within 6 months of delivery was less likely among those delivering in Era 2 than 1 (44% vs 47%; aOR 0.92; 95%CI 0.89-0.96), and of those tested, unsuppressed VL was more likely in Era 2 than 1 (11% vs 9%; aOR 1.29; 95%CI 1.17-1.41).
Mothers aged <20 years (vs ≥20) at delivery and those who started ART before (vs during) pregnancy were less likely to have late pregnancy and postpartum VL testing.
Conclusions: After new VL monitoring guidelines were introduced, late pregnancy VL monitoring improved (due to delivery testing) but not postpartum VL monitoring.
National lockdown measures may have affected HIV service delivery, and may partially account for poorer implementation of postpartum VL monitoring and lack of improved viral suppression rates in Era 2.

Co-infections (including opportunistic infections)

TUPEB023

Improving HIV-associated meningitis outcomes: advancements through a Meningitis Diagnosis and Treatment Program in Northern Uganda

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Background: Cryptococcal meningitis (CM) is an AIDS defining illness and is primarily found among people living with HIV (PLWH). Due to high baseline CM mortality (54.2%) at Lira Regional Referral Hospital in northern Uganda, efforts to improve early diagnosis and treatment were mobilized. In 2017, we implemented a CM diagnosis and treatment program and in 2021 we expanded the program to include all meningitis, providing molecular diagnostics and treatment for all etiologies. This study highlights the current meningitis burden and mortality among adult PLWH.
Methods: Patients admitted with clinical meningitis to Lira Regional Referral Hospital between 2021-24 were prospectively enrolled to evaluate meningitis etiologies and in-hospital mortality. Laboratory testing on CSF to evaluate meningitis etiologies included gram stain and culture, cell count and differential, cryptococcal antigen, India ink, BioFire, Pastorex, and TB GeneXpert Analysis was conducted using descriptive statistics utilizing data on underlying HIV infection, demographic information, HIV history, CD4 count, and mortality.
Results: Among 207 symptomatic meningitis PLWH, 101 had presumed bacterial meningitis (BM) or presumed viral meningitis (VM) based on CSF cell count and differential, 47 had unknown etiologies and, 126 had laboratory confirmed etiologies.
Among the confirmed cases, half had CM (n=64), followed by BM (n=33), tuberculosis meningitis (TBM, n=16), and VM (n=13), The mean age was similar between groups

ranging from 32.7 to 36.8 years and all groups were predominantly male (52-70%). Mean CD4 count was highest among patients with confirmed VM (171.3 cell/mm^3) with the lowest among CM (65.6 cell/mm^3). Patients with confirmed TBM had the highest mortality at 56.3%, followed by BM (42.4%), VM (30.8%) and CM (28.1%).

Conclusions: CM remains a common cause of meningitis among PLWH. However, our findings reveal that BM, VM, and TBM account for half the cases identified. CM mortality has greatly decreased since 2017, now representing the lowest mortality among the different etiologies.

This progress highlights the impact of targeted efforts and provides optimism for similar outcomes through the current meningitis program. Strong collaborations from host institutions and research initiatives, advancements in diagnosis and treatment can improve meningitis mortality in rural areas like northern Uganda and beyond.

TUPEB025

Tracking the Tuberculosis cascade among PLHIV accessing care in an ART Center in India: a 5-year analysis of outcomes

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Background: Tuberculosis is the most common Opportunistic infection among PLHIV contributing significantly to mortality. Universal screening for TB using the WHO 4-symptom screen has been implemented in India to enhance TB detection and initiate early treatment. Despite this, TB diagnosis is often delayed and mortality rates remain high.

Methods: An analysis of PLHIV accessing care at an ART center from January 2018 – June 2024 was done. The analysis tracked all PLHIV who underwent a 4S screen.

The outcomes of TB diagnosis, type of TB, ART initiation, outcome (mortality or survival) and retention in care are discussed.

Results: Among the 3237 PLHIV registered in care, 1083 tested 4S positive i.e. were TB suspects- 33.5%. They underwent detailed clinical examination, Sputum CBNAAT, CXR (PA) and symptom-directed tests for diagnosis of TB- Ultrasonography and/or CECT of the abdomen and chest, lumbar puncture and CSF analysis, cytology / histopathology of appropriate biological samples as indicated.

498 / 1083 (45.98%) subjects, had a confirmed TB diagnosis. Among them, 289 had PTB and 209 had EPTB. The mortality rate was 10.6% (53 / 498). At the end of June 2024, 379/498 PLHIV with TB were retained in care.

Overall, 66/498 PLHIV were lost to follow up over the period of analysis. All PLHIV with TB were initiated on ART and anti TB treatment.

Conclusions: A routine 4S screen identified 33.5% PLHIV as TB suspects. Of these, 46% i.e. nearly half had a TB diagnosis. Though the 4S tool lacks sensitivity in detecting TB, it is a simple, remarkable tool for identifying TB suspects for further assessment. Almost 42% of PLHIV with TB had EPTB, highlighting the high prevalence of EPTB in this population. The mortality rate was 10.6%- despite diagnosis and initiation of both ATT and ART in these subjects. The study demonstrates that a significant proportion of subjects are not retained in care.

There must be consistent efforts to ensure that these very vulnerable subjects do not disengage from active care. A regular analysis of this TB cascade by programs is important to identify gaps in care and to formulate strategies to circumvent these gaps.

TUPEB026

Risk factors for hepatitis C (HCV) transmission in the Canadian Coinfection Cohort (CCC) before, during and after the COVID-19 pandemic

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Background: Between 2018 and 2020, the number of new HCV infections reported in Canada fell by 41%. Disruptions to testing during the COVID-19 pandemic may influence this finding, however transmission risk may have been also altered.

We reviewed changes to risk factors for HCV transmission throughout the pandemic in participants in a long-standing HIV-HCV co-infection cohort.

Methods: We selected all participants enrolled prior to March 2018 with at least one follow up visit after March 2018. Participants were classified as: men reporting sex with men (gbMSM); injecting drugs at their last visit prior to March 2018 (active PWID); Indigenous individuals or in none of these groups ('Other').

We modelled the probability of injection drug use and of self-reported "unsafe" sex (either no, or intermittent condom use) from 2018 to 2024 using a generalised additive model, with covariate adjustment for age. The model included a random intercept allowing for repeated observations from the same individuals.

Results: Among 928 selected participants, the median age was 52; 31% were female and 30% were currently infected with HCV. Each subgroup was of a similar size (23% gbMSM, 35% active PWID, 26% Indigenous, 35% Other).

Overall the probability of reporting injection drug use declined among active PWID and Indigenous peoples, while the probability of reporting condomless sex increased in most subgroups (See Figure 1).

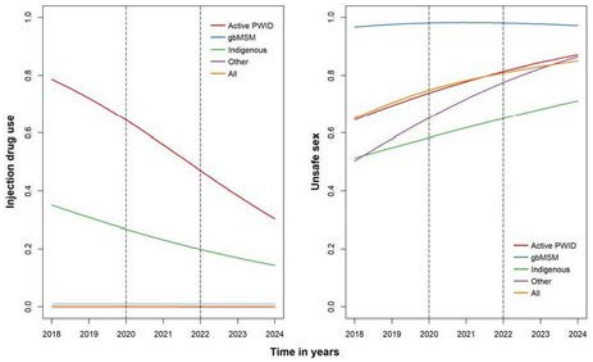


Figure 1.

Conclusions: Amongst individuals enrolled in a long-standing HIV/HCV co-infection cohort, self-reported injection drug use decreased despite the COVID-19 pandemic period, however sex with no or intermittent condom use increased. Given the differential contribution of these risks to HCV transmission, we might not expect large increases in HCV diagnoses as testing resumes post-pandemic if these changes are reflected in a general PWID population.

TUPEB027

Antifungal susceptibility of *Cryptococcus species* isolates in people diagnosed with HIV-associated cryptococcal meningitis in eastern and southern Africa

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Background: Cryptococcal meningitis is the second leading cause of AIDS-related mortality. Treatment in high-prevalence settings has historically been fluconazole monotherapy but WHO recommended combinations of amphotericin, flucytosine and/or fluconazole are increasingly used. We aimed to describe invitro susceptibility profiles of *Cryptococcus* to fluconazole, amphotericin and flucytosine for isolates collected during the AMBITION trial (ISRCTN72509687) and determine association with outcomes.

Methods: AMBITION recruited individuals with first episode of HIV-associated cryptococcal meningitis in Botswana, Malawi, South Africa, Uganda, and Zimbabwe. Baseline cerebrospinal fluid (CSF) was cultured and cryptococcal isolates were stored. Antifungal susceptibility testing was conducted using CLSI broth microdilution methodology at the National Mycology Reference Laboratory in Bristol, UK. We described MICs and the presence of resistance at pre-determined MIC thresholds and tested for association with ten-week mortality.

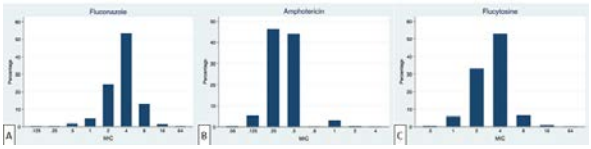
Results: Between January 2018 and February 2021, 844 participants were recruited and 738 grew *Cryptococcus* on baseline CSF for susceptibility testing: 285/738(38.6%) female; median age 37 years (IQR 32-43).

For fluconazole, geometric mean MIC was 4.17µg/mL, MIC_{50} was 4µg/mL and MIC_{90} was 8µg/mL with 17/738 (1.9%) resistant defined as MIC ≥16.

For amphotericin, geometric mean MIC was 0.39µg/mL, MIC_{50} was 0.5µg/mL and MIC_{90} was 0.5µg/mL with 3/738 (0.4%) resistant at MIC ≥2.

For flucytosine, geometric mean MIC was 3.61µg/mL, MIC_{50} was 4µg/mL and MIC_{90} was 4µg/mL, with 57/738 (7.7%) resistant at MIC ≥8.

There was no clustering. There was no association between ten-week mortality and individual antifungal resistance. Mortality was higher in those with any resistance (36.5% vs 25.6%, p=0.0447).



Conclusions: There is limited primary resistance to the three first-line antifungals for cryptococcal meningitis in eastern and southern Africa and no upward trend in fluconazole resistance compared to historical cohorts, suggesting the AMBITION regimen will be effective in these populations. Resistance may be associated with a higher risk of mortality, and ongoing monitoring of antifungal susceptibility and outcomes is required.

TUPEB028

Effect of TB preventive treatment on TB incidence and non-TB-related mortality: results from a large cohort of people living with HIV initiated on antiretroviral therapy in Cameroon, 2020-2022

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Background: Tuberculosis (TB) remains a major cause of death among people living with HIV (PLHIV). Systematic screening for TB symptoms before antiretroviral therapy (ART) initiation and early initiation of TB preventive treatment (TPT) were identified as game changers to prevent TB disease and mortality among PLHIV.
We assessed the effect of TPT on TB incidence and non-TB related mortality and estimated the TB-free survival probability among PLHIV in Cameroon.
Description: This was a retrospective cohort study of PLHIV initiated on ART between October 2020 and September 2022 in the Littoral and South regions, where a six-month course of daily isoniazid (INH) was the available TPT regimen. TPT uptake categories included initiated and completed INH (TPT-completers), initiated but not completed INH (TPT-non-completers), and never initiated INH (TPT-non-initiators). For TB incidence and mortality (all causes excluding incident TB), we considered the time at risk started three months following ART initiation to exclude undiagnosed TB missed during ART initiation. We used the Poisson regression model to estimate TB incidence and Kaplan Meier method to estimate TB-free survival probabilities.
Lessons learned: Overall, 24,820 newly diagnosed PLHIV initiated ART, including 11,554 (46.5%) TPT-completers, 10,689 (43.1%) TPT-non-completers, and 2,577 (10.4%) TPT-non-initiators.
After a median follow up duration of 21 (IQR 10.7 - 29.3) months, 108 TB incident cases were reported (3.0/1,000-person-year), including 51 (2.4/1,000-person-year) among TPT-completers, 42 (3.5/1,000-person-year) among TPT-non-completers, and 15 (5.6/1,000-person-year) among TPT-non-initiators. During the same period, 1,401/24,820 (5.6%) deaths occurred, lower among TPT-completers (240/11,554; 2.1%) than TPT-non-completers (813/10,689; 7.6%) and TPT-non-initiators (348/2,577; 13.5%), p<0.001. The TB-free survival probability at 33 months following ART initiation was higher among TPT-completers (96.4%, 95%CI: [95.9-96.9]) compared with TPT-non-completers (91.7%, 95%CI: [90.9-92.4]) and TPT-non-initiators (84.5%, 95%CI: [82.1-86.5]), log-rank p-value <0.001.
Conclusions/Next steps: Initiating and completing TPT significantly decreased TB incidence and non-TB related mortality among PLHIV on ART, compared to initiating and not completing TPT or not initiating TPT. These programmatic results emphasized the importance of systematic TB screening, TPT initiation at the time of ART initiation, and effective TPT completion in accordance with national guidelines among PLHIV. Prioritizing interventions to improve TPT uptake and completion could help reducing non-TB-related mortality among PLHIV.

Co-morbidities and clinical complications of HIV and antiretroviral therapy

TUPEB029

Favorable lipid profile in people with HIV-1 switching to ainuovirine-based antiretroviral regimen: week 96 results from SPRINT, a randomized phase 3 trial

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Background: In SPRINT extensional study, people with HIV-1 (PWH) continued or switched to ainuovirine plus lamivudine and tenofovir DF (ANV/3TC/TDF) until 96 weeks. This secondary analysis aimed to evaluate the lipid profile of PWH switching to ANV/3TC/TDF through 48 to 96 weeks.
Methods: Out of 762 randomized participants, 376 participants originally assigned to ANV/3TC/TDF (376/381, 98.7%) and 371 participants originally to cobicistat-boosted elvitegravir with emtricitabine and tenofovir alafenamide (E/C/F/TAF) (371/381, 97.4%) completed the extensional study, respectively. The safety outcomes of special interest were absolute changes from 48 wk in LDL-C, non-HDL-C, total cholesterol (TC), triglyceride (TG), and HDL-C at 72 and 96 wk. Dyslipidemia severity was evaluated

using the atherosclerotic cardiovascular disease (ASCVD) risk stratification as per the primary prevention target for Chinese low-risk adults.

Results: Serum LDL-C remained unchanged in ANV/3TC/TDF arm from 48 wk, while a marked reduction was seen in E/C/F/TAF→ANV/3TC/TDF arm at both 72 wk (mean, -0.07 vs. -0.47 mmol/L) and 96 wk (0.01 vs. -0.37 mmol/L).

Similar trends were seen in the changes in non-HDL-C, TC, and TG: 72 wk, -0.04 vs. -0.71 mmol/L, -0.06 vs. -0.87 mmol/L, and 0.06 vs. -0.79 mmol/L, respectively; 96 wk, 0.08 vs. -0.60 mmol/L, 0.05 vs. -0.77 mmol/L, and 0.09 vs. -0.85 mmol/L, respectively. Modest decline was not observed in ANV/3TC/TDF arm but E/C/F/TAF→ANV/3TC/TDF arm (72 wk, -0.02 vs. -0.16 mmol/L; 96 wk, -0.03 vs. -0.17 mmol/L).

ASCVD risk-associated dyslipidemia stratifications showed comparable profiles between these two arms regarding LDL-C, non-HDL-C, TC, TG, an HDL-C. Marked improvement in LDL-C stratification was seen at both 72 wk and 96 wk for E/C/F/TAF→ANV/3TC/TDF arm (Figure 1).

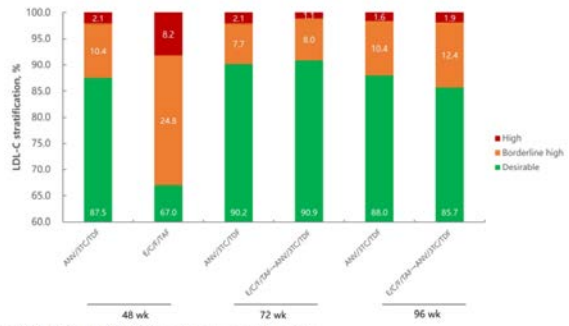


Figure 1. Change in LDL-C profiles at week 72 and 96
ANV/3TC/TDF, ainuovirine/lamivudine/ tenofovir disoproxil fumarate; E/C/F/TAF, elvitegravir/cobicistat/emtricitabine/tenofovir alafenamide; LDL-C, low-density-lipoprotein cholesterol.

Conclusions: Switch to ANV/3TC/TDF from E/C/F/TAF is favored for improved serum lipid profile and ASCVD risk-associated dyslipidemia in VS PWH.

TUPEB030

Preliminary impact of public health messaging on HPV vaccine uptake among adolescent girls and young women living with HIV in central Uganda

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Background: In Uganda, HPV vaccine uptake remains low, with coverage for the full two-dose schedule reaching only 13% among the general population, largely due to limited awareness, misconceptions, and cultural barriers. We assessed the role of public health messaging on HPV vaccine uptake among adolescents and young women living with HIV in central Uganda.

Methods: We conducted a pilot randomized controlled trial among 100 adolescent girls and young women (10–24 years) living with HIV across four healthcare facilities in the Greater Masaka region, Uganda. Facilities were randomly assigned to either the treatment or control arm. Participants in the treatment arm received an hour-long educational session on cervical cancer and HPV vaccination, complemented by brochures and exposure to HPV vaccination posters.

The control arm participants were only exposed to HPV vaccination posters. Data were collected via interviewer-administered surveys assessing socio-demographics, HPV vaccine acceptability, perceived barriers, HPV and cervical cancer knowledge, and HPV vaccine uptake.

The primary outcome, HPV vaccine uptake, was assessed 6 months post-intervention. A mixed-effects logistic regression model was used to assess the intervention's effect on HPV vaccine uptake. The model included random effects for participants and study sites to handle between-participant and between-site variability.

Results: HPV vaccine uptake was 55% overall, with similar uptake rates across age groups and higher uptake among those with sufficient knowledge of the vaccine and cervical cancer and those with higher perceived susceptibility and vaccine acceptability.

The mixed-effects logistic regression model showed a significant effect of the intervention ($p < 0.001$), with participants in the intervention group having 99% higher odds of vaccination compared to the control group and a substantial positive interaction effect at the 6-month follow-up (OR = 56.57, $p < 0.001$).

The predicted probability of vaccine uptake increased significantly in the treatment arm over time, while the control arm remained unchanged, highlighting the intervention's effectiveness in promoting vaccine uptake.

Conclusions: This study highlights the importance of knowledge and targeted interventions in improving HPV vaccine uptake among girls and young women living with HIV. Tailored public health messaging, utilizing diverse communication strategies, can significantly enhance HPV vaccine uptake in this vulnerable group.

TUPEB031

Kidney dysfunction in adults living with HIV and HBV: a 10-year retrospective cohort study across seven Asia-Pacific countries

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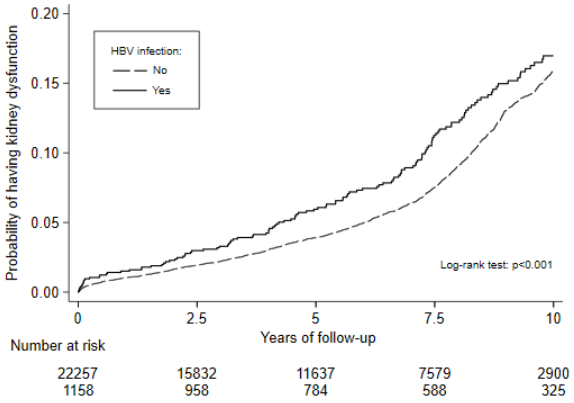
Background: This study investigated kidney dysfunction among people with HIV (PWH), comparing those with and without HBV co-infection. We also identified predictors of kidney dysfunction in PWH with HBV.

Methods: Adult PWH in the TREAT Asia Observational Database – Low Intensity TransfEr cohort, who were on antiretroviral therapy, with follow-up after 2010 were included. HBV co-infection was defined by positive hepatitis B surface antigen. Kidney dysfunction was determined as a single time estimated glomerular filtration rate <60ml/min/1.73m^2. Kaplan-Meier curves evaluated time to kidney dysfunction, and Cox proportional hazards model analyzed factors associated with kidney dysfunction in PWH with HBV.

Results: Among 23,415 participants (median age=37 years), most were male (62.2%), from lower-middle income countries (67.1%), and reported heterosexual HIV transmission (79.3%). The majority (83.6%) were prescribed NRTI+NNRTI, and 4.9% had HBV co-infection.

Overall, 8.0% had kidney dysfunction, with a higher prevalence among PWH with HBV (14.9%) than those without HBV (7.6%). Most cases of kidney dysfunction were stage 3 (84.2%).

Factors associated with higher risks of kidney dysfunction among PWH with HBV included older age (≥50: Hazard ratio [HR]=6.37, 95%CI: 2.28, 17.79; vs. 18-29), higher income (upper-middle income: HR=1.88, 95%CI: 1.23, 2.87; vs. lower-middle income), low platelet counts (HR=2.85, 95%CI: 1.86, 4.35; vs. normal), and ART regimens (NRTI+NNRTI: HR=0.40, 95%CI: 0.25, 0.64; NRTI+PI: HR=0.57, 95%CI: 0.35, 0.94; vs. NRTI+INSTI). Higher CD4 counts (200-349: HR=0.52, 95%CI: 0.30, 0.91; 350-499: HR=0.45, 95%CI: 0.26, 0.78; ≥500: HR=0.33, 95%CI: 0.20, 0.56; vs. <200) were associated with lower risk of renal dysfunction. We found no difference between TDF and TAF use with kidney dysfunction (HR=0.55, 95%CI: 0.25, 1.23; vs. TAF use).



Conclusions: A high prevalence of kidney dysfunction was observed among PWH in the Asia-Pacific, especially PWH with HBV. Renal screening and monitoring should prioritize older PWH with HBV, low platelets and CD4 counts in low-resource settings.

TUPEB032

Blood-based biomarkers – neurofilament light (NfL) and glial fibrillary acidic protein (GFAP) – and cognitive decline among older people with HIV with undetectable viral loads in Thailand

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Background: We previously reported that blood-based phosphorylated tau 217 (p-tau217) could predict distinct cognitive trajectories in older Thai people with HIV (PWH) with undetectable viral loads.

Given the limited data in PWH, this study aimed to assess the potential of neurofilament light (NfL) and glial fibrillary acidic protein (GFAP), emerging biomarkers for cognitive disorders, in predicting cognitive decline in this population.

Methods: Blood samples were collected from Thai PWH aged ≥50 years with plasma viral loads <50 copies/mL, who completed the Montreal Cognitive Assessment (MoCA) at baseline (2015–2017) and a follow-up visit (2021–2024). NfL and GFAP levels were measured at baseline and categorized into quartiles, with a binary comparison between quartile 4 (Q4) and quartiles 1–3 (Q1–Q3).
A multivariate linear mixed-effects model, adjusted for sex, education, baseline MoCA score, HIV duration, nadir CD4 levels, and efavirenz exposure, with an interaction term for biomarker quartiles and age, was used to estimate the effect of baseline NfL and GFAP levels on cognitive performance changes over time.
Results: A total of 255 PWH (63.1% male, median age 54.3 years [IQR: 51.8–59.1]) with a median follow-up of 5.9 years (IQR: 5.6–6.8) were included. In the adjusted model, no significant differences in overall MoCA score changes were observed between PWH in Q4 versus Q1–Q3 for either NfL or GFAP. However, PWH in Q4 of GFAP levels showed a significantly greater decline in visuospatial/executive function, with a score decrease of -2.1 (95% CI: -3.0 to -1.2) compared to -0.4 (95% CI: -1.1 to 0.2) for Q1–Q3 from age 50 to 80 years (*P*-interaction = 0.001) (*Figure*).

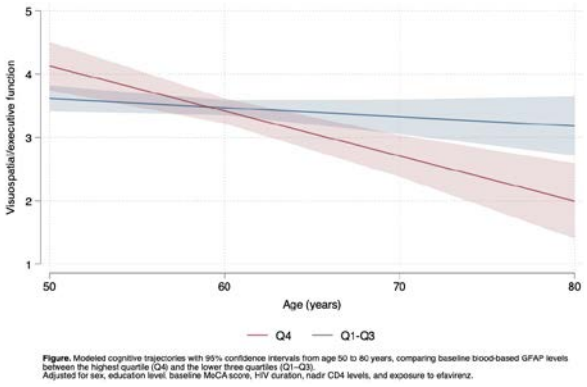


Figure. Modeled cognitive trajectories with 95% confidence intervals from age 50 to 80 years, comparing baseline blood-based GFAP levels between the highest quartile (Q4) and the lower three quartiles (Q1–Q3). Adjusted for sex, education level, baseline MoCA score, HIV duration, nadir CD4 levels, and exposure to efavirenz.

Conclusions: Baseline NfL and GFAP levels were not associated with overall MoCA performance, but higher GFAP predicted greater visuospatial/executive function decline. Domain-specific neuropsychiatric testing is needed to confirm this finding and explore its clinical utility.

Antiretroviral therapies and clinical issues in adults

TUPEB033

Continuity of pre-exposure prophylaxis service delivery among key populations in rural Teso region, North Eastern Uganda, before and after the Anti-homosexuality Act, 2022-2024

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Background: The Anti-Homosexual Act (AHA), 2023 was enacted into law in Uganda on May 26, 2023. According to the Human Rights Awareness and Promotion Forum Report, violence, eviction, and arrests targeting key populations (KP) doubled to 1,085 in the year following the enactment of AHA, from 530 cases from June 2022 to May 2023. We examined how Pre-exposure prophylaxis (PrEP) service delivery among KPs in the Teso region changed after the implementation of AHA in May 2023.
Methods: We conducted a quasi-experimental design one year before the AHA (May 2022-April 2023) and one year after the AHA (June 2023-May 2024). We extracted routine program data on PrEP service from the national KP service tracker for 16 facilities in the Teso region, Uganda. We used STATA 18 to conduct an Interrupted time series analysis by Ordinary Least Squares and plotted the results to examine the change in PrEP service delivery with AHA. $p<0.05$ was considered statistically significant.
Results: A total of 7,841 records of clients were analyzed, with a median age of 27(interquartile range 22-35). Of these 35%(2,753) were involved in sex work, and 2.2%(170) men who have sex with men. There was an immediate decrease in PrEP initiations with the introduction of AHA (coefficient; -45.5, 95% Confidence Interval (CI);-83.15 to -7.92,P=0.018), and After AHA by 0.14 initiations per month (coefficient;-0.14, 95%CI; -0.268 to -0.126,P=0.031) as compared to before AHA (coefficient;0.117, 95% CI;-0.013 to 0.24). The PrEP refills before AHA were increasing by 2 refills per month (coefficient;2.06, 95% CI; 0.95-3.18, P=0.001), With the introduction of AHA there was a decrease in initiations (coefficient; -524.8, 95%CI; -820.33 to -229.23,P=0.001), and further decreased After AHA by 2 refills (coefficient;-1.6, 95%CI;-3.16 to −0.038,P=0.045). There was an increase in PrEP Stoppages (Coefficient;31.9, 95%CI;13.59 to 50.22,P=0.001) during AHA, followed by a decrease after AHA (Coefficient; -0.12, 95% CI;-0.2 to -0.038,P=0.004) as compared to before AHA (Coefficient; 0.015, 95% CI; -0.0024 to -0.32)
Conclusions: With the enactment of AHA, PrEP Refills decreased and Stoppages increased. Laws and policies that target people at risk of acquiring HIV especially key Populations undermine efforts to achieve HIV epidemic control by 2030.

TUPEB034

Rate of ART initiation in Ukraine under conditions of critical load on the health care system: results of a retrospective analysis of data from the electronic medical system MSSD

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Background: In the minds of war, apparently accelerated migration of the population, disrupted logistics, interruptions in electricity and the Internet. Early ART is one of the main supplies of support for PLHIV. The Public Health Center has changed regulatory acts (divided the Standards of medical care for HIV , implemented a new algorithm for testing for HIV , which makes it possible to recognize treatment on the day of screening), and conducted a number of seminars. Multidisciplinary teams have been created in the regions to coordinate assistance to PLHIV. Regular monitoring is carried out. Creation of a telemedicine office to provide remote medical assistance. To help PLHIV, a mobile app called "Care4you" has been created.
Methods: Data from the electronic medical system MSSD were analyzed to evaluate the effectiveness of the „Test and Start" strategy implementation. The recognition of ART in PLHIV throughout the history of ART in Ukraine since 2004 was analyzed.

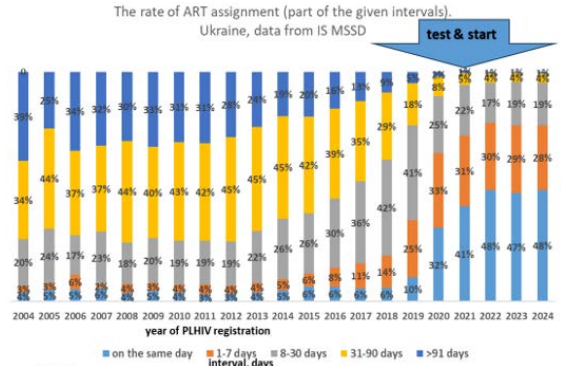


Figure 1.

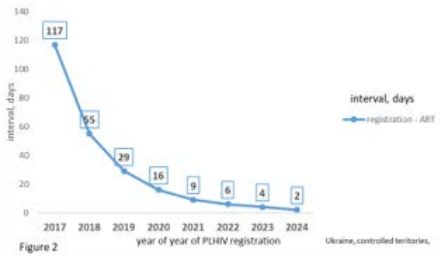


Figure 2.

The number of PLHIV registered in 2024 people by gender and age (total) Tabel 1

	0-17 years	18-24 years	25-29 years	30-39 years	40-49 years	50-59 years	60 or >years	total
femal	29	85	155	826	935	657	248	2935
mail	30	107	221	1838	2294	885	256	5631
total	59	192	376	2664	3229	1542	504	8566

The number of PLHIV registered in 2024 people by gender and age (PLHIV initiating ART within 7 days) Tabel 2

	0-17 years	18-24 years	25-29 years	30-39 years	40-49 years	50-59 years	60 or >years	total
femal	11	54	112	622	713	513	388	2210
mail	18	86	188	1487	1800	695	203	4477
total	29	140	300	2109	2513	1208	591	6687

Results: Data from the MSSD electronic medical system were analyzed to evaluate the effectiveness of the "Test and Start" strategy. Historical trends in ART initiation among PLHIV in Ukraine since 2004 were examined. Results showed that the percentage of PLHIV initiating ART within 7 days of an HIV diagnosis increased from 17% in 2017 to 68% in 2022. In 2024, despite ongoing challenges, 66% of PLHIV began ART within 7 days of diagnosis, and 48% started ART on the same day as diagnosis. The average time from diagnosis to ART initiation dropped dramatically, from 117 days in 2017 to just 2 days in 2024.
Conclusions: The substantial reduction in time from diagnosis to ART initiation highlights the resilience and adaptability of Ukraine's HIV care infrastructure. Maintaining these achievements requires ongoing support for innovative solutions, such as telemedicine and digital tools, alongside continuous training and evaluation.

TUPEB035

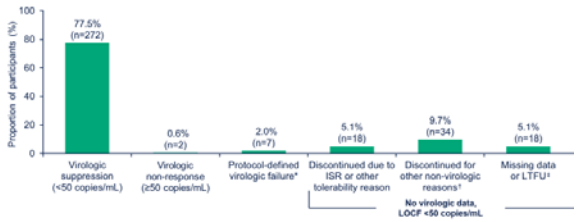
24-month outcomes of cabotegravir+rilpivirine long-acting every 2 months in a real-world setting: effectiveness, adherence to injections, and participant-reported outcomes from people with HIV-1 in the German CARLOS cohort

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Background: Injectable long-acting (LA) cabotegravir (CAB) plus rilpivirine (RPV) offers an alternative mode of administration with less frequent dosing than daily oral antiretroviral therapy (ART). CARLOS is a non-interventional, 3-year, multicenter cohort including people living with HIV-1 (PWH) on suppressive daily oral ART who switched to CAB+RPV LA dosed every 2 months in routine care in Germany. Here, we describe outcomes at Month (M) 24.
Methods: M24 effectiveness outcomes included virologic suppression (HIV-1 RNA <50 copies/mL), virologic non-response (HIV-1 RNA ≥50 copies/mL), and protocol-defined virologic failure (PDVF; two consecutive HIV-1 RNA ≥200 copies/mL, or a single HIV-1 RNA ≥200 copies/mL followed by discontinuation for any reason).
Additional outcomes included adherence to the injection window and change in HIV Treatment Satisfaction Questionnaire status version (HIVTSQs) score.
Results: In total, 351 PWH were included in the M24 analysis. Overall, 94.2% (n=3464/3676) of CAB+RPV LA injections were administered before/within the ±7-day injection window, and 5.8% (n=212/3676) occurred late. At M24, 77.5% (n=272/351) of participants maintained virologic suppression and 19.7% (n=69/351) discontinued while being virologically suppressed.

There were seven participants (2.0%) who met PDVF. Full virologic outcomes are shown in Figure 1.

For participants (n=233/351) completing the HIVTSQs at both baseline (mean score [standard deviation (SD)], 55.0/66 [10.0]) and M24 (mean score [SD], 61.0/66 [7.1]), a statistically significant (mean change, +6.0; p<0.001) and clinically important (greater than half of the baseline SD) improvement in treatment satisfaction was observed.



*Virologic failure (two consecutive HIV-1 RNA ≥200 copies/mL, or a single HIV-1 RNA ≥200 copies/mL followed by discontinuation for any reason): **Participant 1**: HIV-1 subtype unknown, BMI data not available, no data available for history of NNRTI or INSTI RAMs, on-time injections, NNRTI RAM (E138K) and INSTI RAM (Q148R) detected at PDVF; **Participant 2**: HIV-1 subtype B, BMI 23 kg/m², on-time injections, NNRTI RAM (Y181C), PI RAM (V82A), and INSTI RAMs (T97A, E138K, Q148R, N155H) detected at PDVF; **Participant 3**: HIV-1 subtype B, BMI 29 kg/m², injections 3 and 4 received outside of injection window, no RAMs detected at PDVF; **Participant 4**: HIV-1 subtype B, BMI 23 kg/m², injections 6 and 7 received outside of injection window, no RAMs detected at PDVF; **Participant 5**: HIV-1 subtype unknown, BMI 26 kg/m², on-time injections, NNRTI RAM (K101E) detected at PDVF; **Participant 6**: HIV-1 subtype B, BMI 20 kg/m², injection 8 received outside of injection window, NNRTI RAM (K101P) and INSTI RAMs (E138K, Q148R) detected at PDVF; **Participant 7**: HIV-1 subtype B, BMI 24 kg/m², NRTI RAM (K70R) detected at baseline, on-time injections, no RAMs detected at PDVF. PDVF classification was based upon two viral load measurements taken 2 days apart at injection 10. Participant subsequently resuppressed and was at injection 18 at the time of data cutoff.
†n=16 participants preferred oral ART.
‡Includes one participant on drug but missing viral load assessment in window.
ART, antiretroviral therapy; BMI, body mass index; INSTI, integrase strand transfer inhibitor; ISR, injection site reaction; LOCF, last observation carried forward; LTFU, lost to follow-up; NNRTI, non-nucleoside reverse transcriptase inhibitor; NRTI, nucleoside reverse transcriptase inhibitor; PDVF, protocol-defined virologic failure; PI, protease inhibitor; RAM, resistance-associated mutation.

Figure 1. Intention-to-treat virologic outcomes at Month 24.

Conclusions: In this real-world cohort, CAB+RPV LA maintained high rates of virologic suppression, with 2.0% PDVFs, 2 years following switch. There was a low rate of discontinuation due to injection site reactions, and most injections were administered before or within the ±7-day injection window.

Despite high baseline scores on oral ART, the increase in treatment satisfaction for participants remaining on CAB+RPV LA met the threshold for minimum clinically important difference.

TUPEB036

Developing a prediction model for preterm birth for pregnant people living with HIV in British Columbia, Canada

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Background: Our study aims to identify independent risk modifiers of preterm birth and develop a prediction model for pregnant people living with HIV (PLWH).

Methods: Using the population-based cohort, British Columbia Perinatal HIV Surveillance Database, all singleton births among pregnant PLWH from January 1997 to December 2022 were analyzed. We identified univariate risk modifiers for preterm birth (< 37 weeks gestational age) through chi-squared tests, Fisher's exact tests, and Wilcoxon rank-sum tests. We then completed a multivariate logistic regression using clinically relevant risk modifiers with p-value < 0.1 in the univariate analysis.

Using stepwise regression with Akaike information criterion, the prediction model was developed. One hundred thousand bootstrap samples were conducted to assess the optimism-corrected estimate for the area under the ROC curve.

Results: Out of 578 singleton pregnancies in PLWH, 111 (19.2%) had preterm births. Adjusting for history of preterm birth, CD4 count at delivery, and antiretroviral regimens, independent risk factors include substance use in pregnancy (OR: 1.9; 95% CI: 1.03-3.50; p=0.041), Hepatitis C in pregnancy (OR: 1.98; 95% CI: 1.02-3.83; p=0.043), unsuppressed viral load at delivery (OR: 2.03; 95% CI: 1.09-3.79; p = 0.026) and sexually transmitted infections or bacterial vaginosis (STIBV) in pregnancy (OR: 2.06; 95% CI: 1.04 – 4.10; p = 0.039). A prediction model with substance use (score = 3), STIBV (score = 2), hepatitis C in pregnancy (score = 3), unsuppressed viral load (score = 3), and CD4 count < 350 cells/mm^3 (score = 2) was developed (AUC = 0.73). For PLWH without any risk factors, the predicted probability of preterm birth is 9%.

Total Score	Predicted probability of preterm birth	Observed number of people living with HIV with preterm birth
0	9%	18/225 = 8%
2	14%	6/53 = 11.3%
3	18%	16/92 = 17.4%
4	23%	22/69 = 31.9%
5	28%	
6	34%	
7	42%	21/44 = 47.7%
8	48%	

Conclusions: Independent risk factors associated with preterm births in PLWH include substance use, unsuppressed viral load, Hepatitis C co-infection, and sexually transmitted infections or bacterial vaginosis. This prediction tool serves as a personalized counselling tool for preterm birth and identifies individuals at the highest risk for appropriate resource allocation.

TUPEB037

Comparative pharmacokinetics and safety of subcutaneous and intramuscular depot medroxyprogesterone acetate when used among women living with HIV on doravirine-containing antiretroviral therapy

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[1]Wits RHI, Clinical Trials, Johannesburg, South Africa, [2]University of Alabama at Birmingham, Department of Medicine, Division of Infectious Diseases, Birmingham, United States, [3]Oregon Health & Science University, Endocrine Technologies Core, Oregon National Primate Research Center,, Beaverton, United States, [4]University of Nebraska Medical Center, Department of Pharmacy Practice and Science, Omaha, United States, [5]University of Washington, Department of Epidemiology; School of Public Health, Seattle, United States

Background: Injectable hormonal contraception is used globally among women living with HIV (WLWH). A formulation of subcutaneous depot medroxyprogesterone acetate (SC MPA, 104mg, i.e., Sayana Press), dosed lower than intramuscular (IM) DMPA (150mg), is available commercially.

Knowledge gaps exist with comparative assessments between SC MPA vs. IM DMPA and potential drug-drug interactions with antiretroviral therapy (ART).

Methods: We conducted a pharmacokinetic study between November 2021 and February 2024 with five parallel groups of WLWH aged 18-45 in Johannesburg, South Africa. Participants on doravirine-containing ART initiated SC MPA, IM DMPA, etonogestrel (ENG) implant, or non-hormonal copper intrauterine device. We report findings from the SC and IM DMPA groups compared to the non-hormonal group.

We measured serum MPA and plasma doravirine concentrations every two weeks using liquid chromatography – mass spectrometry (LC-MS/MS) assays. We used geometric mean ratios (GMRs) and multivariate models adjusted for age and body mass index (BMI) to analyze drug concentrations. We also evaluated safety, tolerability, and ART effectiveness.

Results: 21 participants each enrolled in the SC MPA and IM DMPA groups. SC MPA users showed significantly lower median MPA concentrations compared to IM DMPA users across all study visits (adjusted GMR range 0.37-0.61, *p*-values < 0.05), indicating that the MPA concentrations in the SC vs. IM DMPA groups were lower as expected. Doravirine concentrations were not significantly lower in the SC MPA vs. non-hormonal group (adjusted GMR range 1.64-2.37, *p*-values <0.15), indicating the SC MPA did not lower doravirine concentrations.

There was a total of 59 and 51 adverse events among SC MPA and IM DMPA users, respectively, with majority being categorized as minor/Grade 1. HIV suppression (<40 copies/mL) was similar between SC MPA, IM DMPA, and non-hormonal groups.

Study visits weeks	Original vs. censored sample2	SC MPA, median (range), number of samples	IM DMPA, median (range), number of samples	Unadjusted DOR + SC MPA: DOR + IM DMPA GMR3 (90% CI)	p-value	Adjusted DOR + SC MPA: DOR + IM DMPA GMR3 (90% CI) GMR4 (90% CI)
2	Original sample	542.0 (198.0-1067.0),n=21	1293.5 (2.0-2852.0), n=20	0.55 (0.37, 0.82)	0.013	0.51 (0.30, 0.88)
	Censored sample	557.5 (198.0 - 1067.0), n=20	1246.0 (2.0, 2642.0), n=15	0.64 (0.59, 0.68)	<0.001	0.61 (0.33, 1.13)
4	Original sample	412.0 (156.0-1091.0), n=22	1025.0 (514.0-3913.0), n=21	0.37 (0.31, 0.43)	<0.001	0.36 (0.28, 0.46)
	Censored sample	421.0 (156.0 - 1091.0), n=18	957.0 (514.0, 1969.0), n=14	0.39 (0.35, 0.45)	<0.001	0.39 (0.31, 0.52)
8	Original sample	321.0 (101.0 - 658.0), n=22	815.5 (222.0-2310.0), n=20	0.38 (0.29, 0.51)	<0.001	0.37 (0.27, 0.49)
	Censored sample	438.0 (125.0 - 658.0), n=17	815.5 (222.0, 2276.0), n=14	0.42 (0.32, 0.55)	<0.001	0.42 (0.31, 0.57)
12	Original sample	271.0 (116.0 - 523.0), n=19	542.0 (295.0-1439.0), n=21	0.44 (0.35, 0.54)	<0.001	0.44 (0.35, 0.54)
	Censored sample	301.0 (116.0 - 523.0), n=15	542.0 (318.0, 1439.0), n=11	0.47 (0.36, 0.63)	<0.001	0.48 (0.36, 0.64)

Conclusions: The data provides valuable insights into the pharmacokinetics and safety of SC MPA and IM DMPA in WLWH using and doravirine-containing ART. While MPA concentrations were lower in the SC MPA vs. IM DMPA groups, as expected, there was no significant impact on ART concentrations providing a signal of limited drug-drug interactions. Larger studies are critical to confirmation of these findings.

Antiretroviral therapies and clinical issues in adolescents and young adults

TUPEB038

Enhancing HIV disclosure rates among adolescents through continuous quality improvement (CQI) approach at Kisumu County Referral Hospital, Kenya

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Background: HIV remains a major public health challenge, particularly in Sub-Saharan Africa where 84% of adolescents with HIV live. Achieving the World Health Organization's 95% viral suppression target for adolescents is difficult, partly due to challenges in HIV status disclosure. Disclosure is crucial for ART adherence, psychosocial support, and improving viral suppression rates. However, the process is complex for both healthcare providers and caregivers. Kisumu County Referral Hospital, with a high HIV prevalence of 14.5%, serves 356 adolescents aged 10-19 living with HIV. Despite efforts, viral suppression rates remain below target, highlighting the need for improved disclosure practices to boost ART adherence and health outcomes.

Description: A Continuous Quality Improvement (CQI) approach was used to address barriers to HIV disclosure among 178 adolescents enrolled at the facility. A 50% disclosure gap was identified, and a Multi-Disciplinary Quality Improvement (QI) team conducted a root cause analysis using the Fishbone diagram, identifying barriers like knowledge gaps, poor documentation, and stigma. Interventions included sensitization sessions for 43 healthcare workers (HCWs) and 30 caregivers, focusing on best practices in disclosure and overcoming challenges. Pre- and post-training evaluations assessed the impact of the intervention.

Lessons learned: Disclosure monitoring from July to December 2022 showed a significant increase in full disclosure rates among adolescents, from 50% to 72%, and appointment keeping rates rose from 70% to 92%. HCWs and caregivers reported a 70% increase in knowledge and confidence after training. Continuous support and mentorship for caregivers and HCWs are critical for sustaining effective disclosure. Challenges included caregiver readiness, staff resistance due to workload, and inconsistent parental support.

Conclusions/Next steps: Training HCWs and caregivers on HIV disclosure processes improved disclosure rates, clinic adherence, and ART adherence. This emphasizes the importance of continuous education, caregiver and HCW support, and a multi-disciplinary approach in adolescent HIV care.

TUPEB039

High levels of mental distress among youth with HIV in southern Africa: a description of enrollment into IMPAACT 2016, a randomized controlled trial of a peer-led, group-based mental health intervention

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Background: Rates of mental distress for youth with HIV (YWH) are not well described for Southern Africa. Depression, anxiety, and post-traumatic stress symptoms can negatively impact antiretroviral therapy (ART) adherence, resulting in virologic failure, and contribute to poor quality of life.

This abstract presents rates of mental distress based on screening for the IMPAACT 2016 randomized controlled trial.

Methods: IMPAACT 2016 evaluates trauma-informed cognitive behavioral therapy adapted from the Kigali Imbereheza Project intervention developed in Rwanda. The intervention is delivered in six group sessions by trained peer leaders who receive weekly supervision. Enrollment criteria include YWH (15-19 years-old) who know their HIV status, have been prescribed ART for at least 6-months, are not co-enrolled in any other mental health intervention study, and have moderate to severe symptoms of depression (PHQ-9 ≥10), anxiety (GAD 7 ≥10), and/or post-traumatic stress (UCLA PTSD-RI ≥35) according to self-administered questionnaires. Recruitment occurred at adolescent HIV clinics and teen clubs. Screening and

enrollment occurred from March to September 2024 across eight IMPAACT network sites in four Southern African countries.

Results: Of the 366 youth screened, 276 (75%) self-reported elevated symptoms of mental distress, and 254 (69%) enrolled in the trial (Table 1). Reasons for non-enrollment (n=22) were primarily school conflicts with attending weekly group sessions and family emergencies preventing return for enrollment. Most youth (71%) reported symptoms on more than one questionnaire; 39% met criteria on all three (Figure 1).

Country	Screened (N=366)	Enrolled (N=254)	% youth reporting symptoms of mental distress
Botswana	70	50	71%
Malawi	87	66	75%
South Africa	29	20	69%
Zimbabwe	180	118	65%

Table 1.

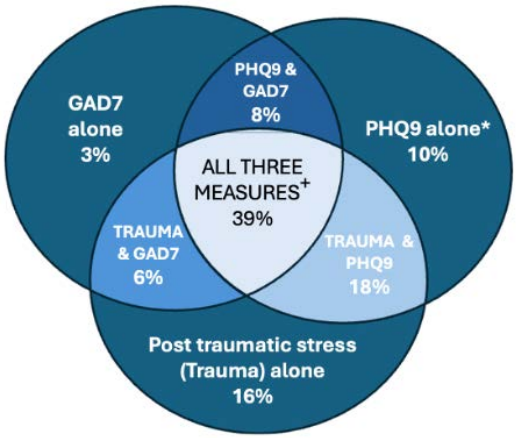


Figure 1. Mental distress symptoms on screening questionnaires.
**includes 6 youth inadvertently enrolled with a PHQ9 score of 9*
+size of the shaded area is not to scale

Conclusions: Successful enrollment into IMPAACT 2016 underscores the high rate of mental distress among YWH and their desire for care. These data amplify the urgent need to integrate mental health screening and services into HIV care and treatment programs for youth in Southern Africa.

TUPEB040

Effectiveness of layered interventions in improving viral load suppression among children and adolescents (0-19years) living with HIV in western Kenya, 2021-2023

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Background: Despite Kenya's progress towards the UNAIDS' 95-95-95 targets for epidemic control, viral load suppression (VLS) among children and adolescents living with HIV (CALHIV) on antiretroviral treatment (ART) remains low at 84% compared to 94% among adults. We implemented layered interventions and assessed its impact on VLS among CALHIV within CIHEB supported sites in western Kenya.

Methods: We conducted a retrospective cohort analysis of data from electronic medical records of CALHIV (0-19yrs) on ART between October 2021 and September 2023 in 93 facilities. The layering approach included five multiple interventions such as expert parent-led sessions during family clinic days, adolescent peer support, Papa-Mama (PAMA) club meetings with fun days, linking orphans and vulnerable children to community support programs and expressive art therapy during enhanced adherence counseling. Full layering was defined as receiving all eligible interventions, while missing at least one was categorized as not fully layered. VLS was defined as viral load <200cp/ml. Descriptive summary statistics described outcomes and covariates. Chi-square tests assessed VLS differences at baseline and end-term. A multivariable logistic regression model, adjusted for sex, age, and facility clustering, was used to evaluate association between layering status and VLS.

Results: The analysis included 7,291 CALHIV with a median age of 13 years [interquartile range (IQR) 10-16], 3,841 (53%) were female, 5,646 (77%) being on ART for 5+ years and 6,234 (86%) were on a dolutegravir based regimen. Overall, 4,174 (57%) received all the eligible interventions while 3,117 (43%) missed at least 1 intervention. CALHIV with VLS improved from 5,569 (76%) to 6,386 (88%) at the end of the period (p<0.001). CALHIV who received full layered interventions had a VLS of 88%, compared with 86% among those not fully layered (p=0.82). After adjusting for age, sex, time on ART, type of regimen and VL results at baseline, CALHIV who received all interventions they were eligible for were more likely to achieve VLS (adjusted Odds Ratio 1.18, 95% CI: 1.02-1.37) compared with those who did not.

Conclusions: Full uptake of layered interventions was associated with improved VLS among CALHIV. Implementing structured multiple interventions could enhance treatment outcomes and support efforts towards epidemic control.

Antiretroviral therapies and clinical issues in neonates, infants and children

TUPEB041

Efficacy and safety of emtricitabine/tenofovir alafenamide (F/TAF) plus cobicistat-boosted protease inhibitors in children with HIV-1 aged 2-<12 years and weighing 14-<40 kg: Week 48 outcomes

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Background: TAF is a nucleoside reverse transcriptase inhibitor with improved renal and bone safety compared with tenofovir disoproxil fumarate. F/TAF is approved in Europe and the US for use with boosted protease inhibitors in adults and older children, and is being evaluated with cobicistat-boosted atazanavir (ATV/co) or darunavir (DRV/co) in younger children in an ongoing open-label Phase 2/3 trial (NCT02016924).
Here, we report efficacy and safety outcomes through 48 weeks in children with HIV aged 2-<12 years and weighing 14-<40 kg.
Methods: Participants aged 6-<12 years, weighing 25-<40 kg, received 200/25 mg F/TAF + ATV/co or DRV/co (Cohort 2). Participants aged ≥2 years and weighing 14-<25 kg received 120/15 mg F/TAF + ATV/co or DRV/co (Cohort 3). Baseline characteristics, virologic suppression, changes in clinical parameters, and changes in bone mineral density (assessed by dual-energy X-ray absorptiometry) are reported.
Results: Twenty-three (Cohort 2) and 26 (Cohort 3) participants were enrolled. At baseline, in Cohort 2/Cohort 3, 61%/54% of participants were female, 91%/92% were Black, median (range) age was 10 (8-12)/6 (3-10) years, and 96%/92% had HIV-1 RNA <50 copies/mL. At Week 48, 100% (23/23) of participants in Cohort 2 and 96% (25/26) in Cohort 3 had HIV-1 RNA <50 copies/mL. Two participants, both in Cohort 3, each experienced two Grade 3/4 study drug–related treatment-emergent adverse events (TEAEs). All four TEAEs were of elevated bilirubin/hyperbilirubinemia (Grade 3) and were considered related to ATV; one was classified as a serious TEAE. Changes in clinical parameters reported in the *Table (following page)* were not clinically significant.
Conclusions: Over 48 weeks of treatment, F/TAF + ATV/co or DRV/co in children aged 2-<12 years and weighing 14-<40 kg maintained high rates of virologic suppression, with an acceptable safety profile. There were no renal, bone, or weight gain/loss concerns, supporting further evaluation of these drug combinations in pediatric populations.

	Cohort 2 (6-<12 years; 25-<40 kg) n=23		Cohort 3 (≥2 years; 14-<25 kg) n=26	
	Baseline	Week 48	Baseline	Week 48
CD4 count,[a] cells/μL	n=23 876 (671, 1063)	n=23 785 (630, 1133)	n=26 940 (705, 1259)	n=25 769 (618, 1064)
CD4%[a]	n=23 36.2 (31.1, 41.0)	n=23 38.7 (32.5, 42.1)	n=26 34.8 (29.5, 40.8)	n=25 37.4 (32.4, 39.6)
Height Z-score[b]	-1.1 (-1.8, -0.7)	-1.2 (-1.5, -0.4)	-0.8 (-1.6, 0.2)	-0.8 (-1.5, -0.1)
Weight Z-score[b]	-0.8 (-1.2, -0.4)	-0.6 (-1.0, -0.3)	-1.0 (-1.7, -0.4)	-0.6 (-1.4, -0.3)
BMI Z-score[b]	-0.3 (-0.9, 0.1)	0.0 (-0.5, 0.4)	-0.6 (-1.5, 0.3)	-0.5 (-1.0, -0.1)
Spine BMD, g/cm²	n=20 0.54 (0.50, 0.60)	n=20 0.60 (0.52, 0.63)	n=18 0.48 (0.42, 0.51)	n=18 0.50 (0.45, 0.54)
TBLH BMD, g/cm²	n=21 0.65 (0.60, 0.69)	n=21 0.69 (0.66, 0.72)	n=23 0.49 (0.45, 0.55)	n=22 0.54 (0.48, 0.61)
eGFR,[c] mL/min/1.73 m²	n=23 144.0 (122.3, 159.1)	n=23 136.1 (127.5, 160.7)	n=26 153.2 (128.4, 168.7)	n=25 140.6 (126.5, 149.0)

Data are median (Q1, Q3). All baseline values were the last available values collected on/before first dose of study drug
[a]For participants discontinuing treatment before Week 48, includes data up to 1 day after discontinuation
[b]Z-scores generated using the 2000 US Centers for Disease Control and Prevention Growth Charts
[c]Calculated using the Schwartz formula
BMD, bone mineral density; BMI, body mass index; eGFR, estimated glomerular filtration rate; Q, quartile; TBLH, total body less head

Table. Summary of clinical parameters at baseline and week 48.

TUPEB042

Risk of neural tube defects in births periconceptionally exposed to antiretroviral therapy in Malawi

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Background: Antiretroviral therapy (ART) has significantly reduced vertical transmission of HIV. However, there have been concerns of birth defects, including neural tube defects (NTDs), associated with periconceptional exposure to ART. We assessed the risk of NTDs among births periconceptionally exposed to ART from pregnant women living with HIV (WLHIV).
Methods: We analysed data collected between December 2016 and December 2023 from four high-volume delivery hospitals in Malawi implementing active birth defects surveillance. All informative live births, stillbirths, and spontaneous abortions, regardless of gestational age, were included. Periconceptional ART exposure was defined as ART use from one month before estimated date of conception through the first trimester based on last menstrual period or estimated gestational age from

ultrasound scan. We used adjusted binomial regression (adjusted for maternal age, number of prior pregnancies, and antenatal care attendance) to compare prevalence of NTDs in births exposed to ART periconceptionally and births from women without HIV.

Results: Of 271,981 informative births, 25,614 (9.4%) were from WLHIV, of whom 25,146 (98.2%) were on ART. Of the births from WLHIV on ART, 13,439 (53.4%) were periconceptionally exposed to ART (6,509 [48.4%] on efavirenz-based ART and 6,855 [51.0%] on dolutegravir-based ART).

The overall prevalence of NTDs per 10,000 informative births was 6.3 (95% CI=5.4-7.3, n=172) among all births, 13.8 (95% CI=7.3-26.3, n=9) among those with periconceptional exposure to efavirenz, and 11.7 (95% CI=5.9-23.0, n=8) among those with periconceptional exposure to dolutegravir.

Periconceptional exposure to efavirenz-based ART was significantly associated with an increased risk of NTDs (aPR = 2.2, 95% CI=1.1-4.4, p=0.02), but there was no statistically significant association between periconceptional exposure to dolutegravir-based ART and NTDs (aPR=1.9, 95% CI=0.9–3.9, p=0.08).

Conclusions: Our findings suggest that periconceptional exposure to efavirenz was associated with an increased risk of NTDs. However, as NTDs are a rare outcome, the small number of cases may have influenced the precision of the point estimates. Ensuring adequate folic acid uptake periconceptionally may mitigate potential risk of an NTD-affected pregnancy for women on ART. Active surveillance of birth defects remains an important strategy to identify potential associated risk factors of NTDs.

Epidemiology of HIV

TUPEC043

Spatial trends and predictive factors of detectable HIV viremia in people on dolutegravir-based antiretroviral therapy in Botswana

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Background: Botswana has achieved the UNAIDS 95-95-95 targets in 2022, however, the rate of new HIV cases remains concerningly high. The study aims to assess the predictors of detectable HIV viremia in the era of dolutegravir (DTG)-based first-line antiretroviral therapy (ART) in Botswana, utilizing logistic regression and spatial mapping to pinpoint regions with high rates of detectable viremia that are likely to experience new HIV cases.

Methods: This was a longitudinal observational cohort utilizing a dataset of 42,545 people living with HIV (aged≥18 years) on DTG-based first-line ART from June 2016 to December 2022 who were enrolled in the Botswana National Treatment Program. Detectable viremia was defined as viral load (VL)>50 copies/mL and further classified into low-level viremia (LLV) (VL: 50-1000 copies/mL) and virologic failure (VF) (VL≥1000 copies/mL). The rates of detectable viremia were stratified by year from 2017-2022 and mapped by 28 administration districts in Botswana. Univariate logistic regression models were utilized to identify predictors of detectable viremia.

Results: There is an overall trend of increasing detectable viremia: 6.7% (2017), 5.6% (2018), 4.7% (2019), 7.1% (2020), 13.5% (2021) and 11.2% (2022). LLV increased from 2.3% in 2017 to 8.0% in 2022, however, rates of VF declined from 4.4% to 3.2% over the same period.

Among 28 districts, Ghanzi experienced the highest increased rates of LLV from 1.2% (2017) to 11.2% (2022). Ngamiland West also reported notable increased LLV rates from 3.7% to 8.8% over the same period.

Being a male (unadjusted odd ratio (OR): 1.31 95% Confidence intervals (CI);1.25-1.37), residing in a rural area (OR: 1.14 95% CI;1.09-1.20) or being a young adult (18-21 years) (OR: 1.97 95% CI:1.72-2.26) were associated with increased odds of experiencing detectable viremia (p-values for all variables <0.01).

Conclusions: The study shows that the annual rate of viral failure is decreasing, however, detectable viremia is increasing, and LLV is the primary driver of unsuppressed VLs. This suggests that intensified targeted interventions are recommended to reduce rates of detectable viremia in men, young adults, rural areas and districts with increasing trends of LLV. Strengthening these efforts is critical to reducing detectable viremia and prevent new HIV cases.

TUPEC044

Comparative prevalence of premature cognitive aging in adult Ugandans living with HIV and demographically matched HIV-negative controls

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Background: The prevalence rates of mild cognitive impairment (MCI) and Alzheimer's dementia (AD) in cART-treated people living with HIV (PWH) compared to age-matched HIV-negative peers remain unclear. The global demographic shift towards aging populations highlights the importance of this data for health system planning.

Methods: A total of 471 adults aged 20–87 years (277 PWH and 189 HIV-negative controls), matched by age, sex, and residence, underwent neuropsychological evaluation in Kampala, Uganda. Seven cognitive domains, including recall, memory, language, processing speed, executive function, attention/working memory, and motor function, were assessed.

Cognitive status was classified (not impaired, ANI, MND, HAD if HIV+), and age-related dysfunction (AD subtype) was defined per Bondi et al. (2014). MCI was identified as moderate (≥1 SD worse in ≥2 tests) or pronounced (>2 SD worse in ≥1 test) cognitive impairment without functional limitation, with amnestic MCI involving memory deficits. AD was defined by ≥1 pronounced memory-related impairment (e.g., delayed recall) with functional limitation.

Differences in MCI/AD by HIV status were analyzed using chi-square tests and odds ratios (OR) with 95% confidence intervals (CI), stratified by age (<60 vs. ≥60 years).

Results: Of participants, 26.1% (n=123) were cognitively normal, 17.2% (n=81) had amnestic MCI, 27.8% (n=131) non-amnestic MCI, 9.1% (n=43) AD, and 10.8% (n=93) other dementia. Among cognitively unimpaired/ANI individuals, amnestic MCI prevalence was 28.9% (60/204) in PWH vs. 14.7% (21/133) in HIV- controls (OR=2.18, 95% CI:1.25, 3.84). Among MND/HAD individuals, AD prevalence was 38.7% (29/75) in PWH vs. 23% (14/61) in HIV- controls (OR=2.11, 95% CI:0.99, 4.50).

For unimpaired/ANI individuals <60, amnestic MCI prevalence was 30.3% in PWH vs. 16.2% in controls (OR=1.9, 95% CI:1.02, 3.60). Among MND/HAD individuals, AD prevalence was 38.6% in PWH vs. 16.3% in controls (OR=3.23, 95% CI:1.23, 8.52). For those ≥60 with ANI/no impairment, amnestic MCI prevalence was 41.9% in PWH vs. 14.7% in controls (OR=4.04, 95% CI:1.23, 13.40), but AD prevalence was identical at 38.9% in both groups.

Conclusions: PWH face higher risks of MCI/AD diagnosis, potentially at younger ages compared to HIV-negative peers. These findings emphasize the need for MCI/AD screening and interventions to mitigate risks in PWH.

Monitoring and population-level interventions for non-HIV outcomes

TUPEC045

Radiology report of hepatic steatosis is associated with increased risk of hepatocellular carcinoma or hepatic decompensation in people with and without HIV

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Background: While rates of chronic viral hepatitis are decreasing globally, rates of hepatocellular carcinoma (HCC) in people with HIV (PWH) have tripled, parallelling the rise in obesity and diabetes. Steatotic liver disease (SLD), the hepatic manifestation of metabolic syndrome, may lead to HCC or hepatic decompensation (HD); however, it is unclear if SLD, independent of metabolic factors and HIV status, contributes to increased risk of HCC or HD.

Methods: We applied a validated HCC risk score to PWH and people without HIV (PWoH) in the Veterans Aging Cohort Study-HIV between 2001-2017; people with hepatitis B or C were excluded. The HCC risk score uses age, sex, race, ethnicity, Fibrosis-4 Index, body mass index, smoking, and diabetes status to quantify risk of HCC on a 0-100 scale among people without viral hepatitis or prevalent HCC/HD. SLD was identified using natural language processing on radiology reports from the first computed tomography, magnetic resonance, or ultrasound. Incident HCC and HD were defined by cancer registry or validated International Classification of Disease-9/-10 codes. Cox regression was used to estimate 10-year risk of the composite of first HCC/HD event associated with SLD, independent of HCC risk score or HIV.

Results: Of 56,731 included (96% male; median age, 53 years; 6.5% Hispanic, 44% Black; 24% PWH), SLD was identified in 23% of radiology reports. 89 incident HCC (incidence rate [IR]: 2.0/10,000 person-years) and 831 HD events (IR: 18.3/10,000 person-years) were identified. SLD was associated with significantly increased risk of HCC/HD (hazards ratio: 2.25; 95% confidence interval: 1.97-2.56), independent of HCC risk score and HIV (*Table*).

Model discrimination improved with addition of SLD (c-statistic without SLD: 0.76, with SLD: 0.78). PWH had a 15% increased risk of HCC/HD. Risk of HCC/HD increased 9% for every 1-point increase in HCC risk score, independent of SLD status.

Variables	Unadjusted Hazards (95% CI)	Adjusted Hazards (95% CI)
HCC risk score	1.09 (1.09-1.10)	1.09 (1.08-1.09)
HIV	1.16 (1.00-1.34)	1.15 (0.99-1.34)
SLD	3.02 (2.65-3.43)	2.25 (1.97-2.56)

Table. Unadjusted and Adjusted Hazards Ratio of Hepatocellular Carcinoma or Hepatic Decompensation in People with and without HIV.

Conclusions: SLD is independently associated with greater risk of HCC/HD in PWH and PWoH who underwent radiology studies. Interventions to ameliorate metabolic factors contributing to SLD and HCC/HD are urgently needed.

TUPEC046

Is life expectancy "Near Normal" for people aging with HIV in the United States?

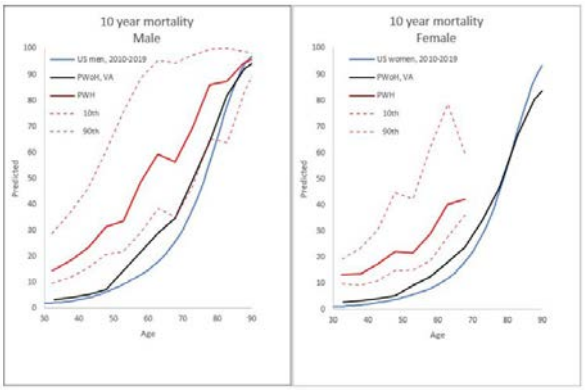
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Background: Claims that life expectancy is "near normal" for people with HIV infection (PWH) on antiretroviral therapy fail to consider HIV-associated risk for physiologic injury and comorbid disease. Applying a validated mortality index (Veterans Aging Cohort Study-Charlson Comorbidity Index, VACS-CCI) in the United States (US) Veterans Healthcare Administration (VA), we asked whether 10-year mortality by age and self-reported sex differs by HIV status. We compare with "population mortality" based upon US life table data.

Methods: Using (VA) electronic health record data, we randomly selected one outpatient visit date per person at least 18 months after the first outpatient diagnosis. PWH were required to have visited at least one year after the date of the first ART prescription. We obtained laboratory data on the closest date prior to 18 months before and all diagnoses comprising the CCI two years before visit date.

We calculated VACS-CCI, using age, albumin, creatinine, platelets, alanine and aspartate transaminases, white blood cell count, body mass index, and these comorbid conditions. For population estimates, we used US death rates by age and year stratified by sex.

Results: The VA sample had 6,588,688 people without HIV (PWoH) and 30,539 PWH. The figure illustrates median expected mortality by age, for PWH and PWoH in VA and life table-based US population estimates (red, black, and blue lines respectively) for men and women. The dotted red lines illustrate the 10th and 90th percentiles among PWH. PWH in VA are expected to have substantially higher mortality than PWoH in VA and compared to US general population. Differences were greater for women than men.



Conclusions: Using a validated risk index incorporating laboratory measures and comorbid diagnoses, PWH are likely to have substantially higher mortality than PWoH. Disparities were even greater for women than for men. We see no evidence that PWH have a "near normal" life expectancy.

Surveillance: Measuring the HIV pandemic

TUPEC047

Quantifying interruptions in sexual and reproductive health programmatic outputs in Malawi following cyclone Freddy- an interrupted time-series analysis using routine health information system and satellite imagery data

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Background: Cyclone Freddy, the longest-lasting tropical cyclone worldwide, may have disrupted access, availability, and demand for HIV and related health services in Malawi. We quantified its impact across health facilities using routine programmatic data and satellite imagery.

Methods: Our analysis included data from 356 urban and rural facilities across the 15 Southern districts in Malawi in the cyclone path. We defined February 2020 to February 2023 as the pre-cyclone period and February 2023 to December 2023 as the post-cyclone period with February 2023 as the month Cyclone Freddy took place.

We defined our exposure of interest using satellite imagery and machine learning building detection algorithms to quantify health facility building damage into categories of least, medium, and most damage.

Our outcomes of interest were drawn from DHIS2 monthly for each facility and included the number of HIV tests, STI clients, and ANC registrations.

We then conducted an interrupted time series analysis of our outcomes across satellite-derived damage levels adjusting for seasonality.

Results: Most facilities (246) had low damage, with 21% (76) categorized as medium damage, and 10% (32) as high damage. While Blantyre had the most facilities overall (n=62), Machinga had the most high-damage facilities (n=10).

Across the full period, facilities saw a median of 271 total HIV tests (IQR: 134-434), 32 total STI clients (IQR: 17-52), and 68 ANC Registrations (IQR: 37-109) per month. Post-cyclone, on average, high-damage facilities administered 59,060 (SE: 3,843) fewer HIV tests, saw 8,146 (SE: 213) fewer STI clients, and had 13,409 (SE: 156) fewer ANC registrations compared to low-damage facilities post-cyclone.

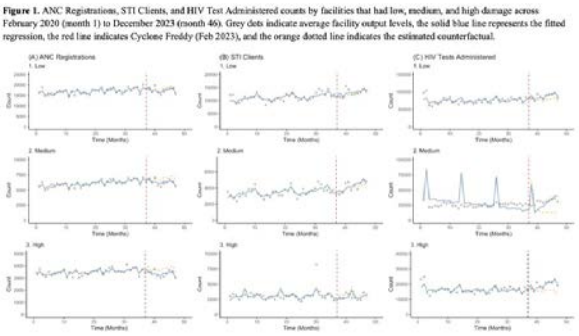


Figure 1. ANC Registrations, STI Clients, and HIV Test Administered counts by facilities that had low, medium, and high damage across February 2020 (month 1) to December 2023 (month 46). Grey dots indicate average facility output levels, the solid blue line represents the fitted regression, the red line indicates Cyclone Freddy (Feb 2023), and the orange dotted line indicates the estimated counterfactual.

Conclusions: Cyclone Freddy was associated with notable trends in sexual and reproductive health service-seeking behavior. Layering geospatial data with causal inference methods can provide insights into informing and planning the health system's resource allocation efforts during natural disasters.

TUPEC048

Population-level coverage and correlates of enrollment in community-based antiretroviral therapy (ART) refill models in Africa: a multi-country study

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Background: Community-based antiretroviral therapy (ART) distribution, through models like out-of-facility drug distribution points and peer-/provider-led home ART delivery, has emerged as a promising strategy to increase HIV treatment accessibility and achieve HIV epidemic control in Africa. While these community-based models are increasingly implemented across Africa, especially to mitigate service disruptions during the COVID-19 pandemic, coverage and factors associated with service enrollment, specifically at the population level, remain understudied.

Methods: We pooled data from six Population-based HIV Impact Assessment (PHIA) surveys (Eswatini, Lesotho, Malawi, Mozambique, Uganda, Zimbabwe), conducted in 2020-2021—yielding a household-based, multistage probability sample of virally suppressed (<1000 RNA copies/ml) persons living with HIV initiating ART 12+ months prior who were eligible for community-based ART distribution. Survey-weighted multivariable logistic regression with jackknife variance estimation identified correlates of enrollment in community-based, relative to facility-based, ART distribution models.

Separately, sex-stratified negative-binomial regression quantified mean viral load differences (number of RNA copies/ml) by ART refill model, reported as adjusted incidence rate ratios (adjIRR) with 95% confidence intervals (CI).

Results: Across countries, 10391 virally suppressed persons living with HIV on ART for 12+ months (mean age: 42.1 years, 67.0% female) self-reported their assigned ART refill model, 3.5% of whom received ART from a community-based pickup point (*range*: 0.5% in Mozambique to 7.6% in Zimbabwe). Factors independently associated with enrollment in a community-based ART refill model included rural residence (adjusted odds ratio [adjOR]=2.15, 95% CI: 1.11-4.17, *p*=0.025), past-year mobility (adjOR=1.57, 95% CI: 1.05-2.34, *p*=0.028), ART use for 5+ years (adjOR=1.48, 95%

CI: 1.00-2.18, *p*=0.049), and transportation-related barriers to facility-based HIV care (adjOR=1.52, 95% CI: 1.08-2.14, *p*=0.019). Enrollment in a community-based ART refill model was associated with superior virologic control (i.e., lower mean viral load) among males (adjIRR=0.61, 95% CI: 0.40-0.93, *p*=0.022) but not females (adjIRR=1.04, 95% CI: 0.74-1.47, *p*=0.811).

Conclusions: Findings reveal that community-based ART refill models can reach populations at increased risk for HIV care attrition (i.e., mobile persons, individuals experiencing transportation-related barriers to care), but coverage estimates fall well below national programmatic targets—suggesting the presence of constraints hindering implementation. Continued scale-up of community-based ART refill models may be needed to optimize population-level impact.

TUPEC049

Trajectory and correlates of viral load suppression at individual and geospatial levels in Malawi: a descriptive nation-wide study of laboratory information management system data

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Background: Treatment as prevention is a key strategy of HIV programmes. Monitoring viral load is an important indicator of effective HIV management and has epidemiological implications for epidemic control.

Methods: We used Malawi's laboratory information management system (LIMS) data on viral load test results from all 28 districts in 2022 and 2023. Our primary outcome was viral load suppression (VLS), defined as a viral load below 1,000 copies/mL.

We examined the change in VLS between an individual's first and second test. This change was then classified into four categories: durable VLS, where viral load remained below 1,000 copies/mL for both tests; viral rebound, where viral load increased from below to above 1,000 copies/mL; persistent viremia, where viral load remained above 1,000 copies/mL; and new/renewed VLS, where viral load decreased from above to below 1,000 copies/mL.

We describe patterns of these trajectories across districts and health facilities, and perform generalized mixed effects models to identify factors associated with viral rebound.

Results: Our analysis includes 188,361 ART clients with at least two viral load tests, of whom 128,077 (68%) were female, 115,379 (61%) were aged 24-49, mean time on ART was 6.9 years, 126,930 (67.4%) were on first-line therapy, and there was an average of 45.6 weeks between tests. Among included clients, 159,351 (85%) had durable VLS, 13,089 (7%) had new/renewed VLS, 10,255 (5.5%) experienced viral rebound, and 5,666 (2.5%) had persistent viremia. Trajectories across districts were heterogeneous with 17 of 28 districts seeing increases in average VLS between tests.

Males had 1.15 times greater odds of viral rebound compared to females, those on second-line therapy had 0.71 lower odds of viral rebound compared to those on first-line, and those aged under age 15 had 3.79 times greater odds of viral rebound compared to those aged 25-49 (all after adjusting for time on ART, and district).

Conclusions: VLS trajectories are highly heterogeneous in Malawi at district, facility, and individual level. Careful monitoring is recommended to understand reservoirs of viremia and correlates of persistent and rebound viremia.

TUPEC050

Comparative study on substance use and HIV risk among PWUD/PWID in the city of Kigali

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Background: In Rwanda, data on the prevalence and incidence of Human Immunodeficiency Virus (HIV) among People Who Use or Inject Drugs (PWUD/PWID) is lacking. This study, conducted in 2019 and 2024 in collaboration with the Rwanda NGOs Forum on HIV/AIDS and Health Promotion and Rwanda Biomedical Center (RBC), aimed to assess injection drug use (IDU) and its associated risk factors for HIV and other transmissible infections among PWUD/PWID in Nyarugenge, Kicukiro, and Gasabo districts in Kigali.

Methods: A comparative descriptive study with a quantitative approach was employed. Participants were recruited using convenience and respondent-driven sampling. Data were collected through structured questionnaires administered by trained data collectors. HIV testing was conducted, and socio-demographic profiles of participants were documented. Data analysis was performed using SPSS version 21.0.

Results: In 2019, 529 PWUD/PWIDs were identified, while in 2024, 482 were identified. HIV prevalence among self-reported substance users was 12.8% in 2019, compared to 8.9% (95% CI: 7.4-10.4) in 2024. Regarding substance use, heroin use was 45.3% in 2019 and 99.06% (95% CI: 98.87-99.25) in 2024, and opium use was 35.9% in 2019 and 0.67% (95% CI: 0.51-0.83) in 2024. Alarmingly, in 2019, 56.9% of respondents reported no access to HIV services, including HIV testing and counselling (HTC), care and treatment, family planning (FP), or condom distribution, compared to 29.1% (95% CI: 26.8–31.5), in 2024.

Conclusions: >The findings indicate that the use of heroin has increased among PWID while opium use has reduced. However, HIV prevalence among self-reported was decreased due to the increase in access to HIV services. Targeted interventions are urgently needed to address the health needs of PWUD/PWID, including integrating this group into national health policies and programming. Future research should explore extended geographical sites and the size of PWID to inform further interventions and strategies.

Modelling the HIV pandemic

TUPEC051

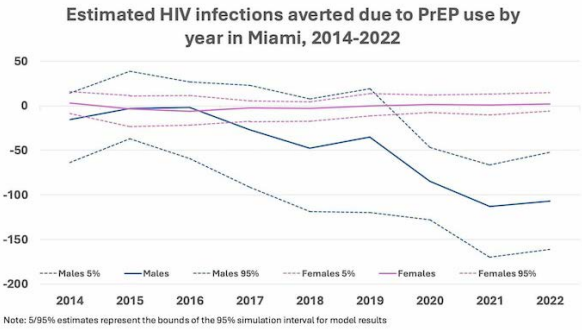
The estimated impact of pre-exposure prophylaxis (PrEP) use on new HIV infections in Miami, USA, from 2014-2022

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Background: Miami has had the highest rate of new HIV diagnosis in the United States (US) for decades. Miami has also experienced a significant rise in pre-exposure prophylaxis (PrEP) use over the last decade. To inform HIV elimination strategies, we sought to estimate the total preventive impact of observed PrEP use in Miami from 2014-2022.

Methods: We constructed an agent-based model of the Miami population, incorporating important local factors: demographics, sexual risk behavior, HIV treatment, condom use, among others. We obtained PrEP enrollment, adherence, and retention estimates by subpopulation of interest (sex, race/ethnicity) from published empirical research in Miami and the US. We calculated the HIV incidence rate and total new HIV infections for two scenarios: a "baseline" using empirical data from 2014-2022, and a scenario in which there was no PrEP availability. We used these estimates to calculate infections averted due to PrEP use by subpopulation.

Results: We estimated that between 2014-2022, 441 HIV infections (95% simulation interval [SI]: 31-999) were averted within the total population of Miami (49 per year), which typically has a total incidence of about 1,200 cases per year, in a county of 2.7 million. Almost all these infections averted, 434 (SI: 35-949), were among men. In 2022, the largest single-year reduction in the rate of HIV infection was among Hispanics: 6.7/100,000 (SI: 0.8-13.9/100,000). Hispanics also had the largest relative reduction in HIV incidence due to PrEP use: 20% (SI: 2%-43%), followed by Whites, 17% (SI: 2%-33%), and Blacks, 10% (SI: -4%-26%).



Conclusions: PrEP use has increased steadily in Miami, contributing towards HIV elimination goals. This progress, however, was not equally experienced by males and females, nor by race/ethnicity. More complete data on PrEP use, retention, and adherence may enhance such estimates for the future, including on data on emerging PrEP formulations (e.g., long-acting injectables).

HIV prevention research

TUPEC052

Real-world utilization and adherence of cabotegravir long-acting for HIV pre-exposure prophylaxis in the United States: results from the PrEPFACTS study using healthcare administrative claims data

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Background: APRETUDE (cabotegravir long-acting [CAB-LA]) was approved for human immunodeficiency virus (HIV) pre-exposure prophylaxis (PrEP) in the United States (US) in December 2021. The PrEPFACTS study evaluated real-world utilization patterns and adherence to CAB-LA.

Methods: PrEPFACTS was a retrospective US cohort study using data from the Komodo Research Database (01/Dec/2020-30/Sept/2023). Individuals ≥12 years old who received ≥1 CAB-LA injection (first injection defined as index date), had ≥12 months of continuous insurance eligibility before the index (i.e. baseline), and ≥6 months after were included.

Individuals with HIV-1 or HIV-2 diagnosis or receiving ≥60 days of non-PrEP antiretroviral therapy during baseline were excluded. Individuals were followed from index to the earliest of either end of continuous enrollment, death, or end of data availability (i.e. follow-up).

Utilization and adherence (proportion of days covered [PDC] from index to earliest therapy discontinuation [i.e., gap of ≥91 or ≥121 days during initiation or continuation phase, respectively] or end of follow-up) to CAB-LA were described.

Results: Among 1,202 eligible individuals (Table 1) with median follow-up of 325 days (interquartile range [IQR] 242, 423), 85.2% received >1 CAB-LA injection, and median number of injections per individual per year was 6. Of 2,048 initiation and 3,715 continuation injections, the median interval between first and second injection was 29 days (IQR 24, 42) and was 56 days (IQR 49, 63) for continuation injections (Table 2).

	OVERALL N=1,202	COMMERCIAL N=709	MEDICARE N=48	MEDICAID N=444
Age at index (years), mean ±SD	36.5 ± 11.7	37.2 ± 10.7	52.5 ± 17.3	33.8 ± 10.9
Male sex recorded by payer, n (%)	992 (82.5)	661 (93.2)	38 (79.2)	292 (65.8)
Transgender men, n (%)[1]	55 (4.6)	12 (1.7)	0 (0.0)	43 (9.7)
Transgender women, n (%)[1]	65 (5.4)	36 (5.1)	4 (8.3)	25 (5.6)
White race, n (%)	368 (30.6)	222 (31.3)	26 (54.2)	120 (27.0)
Black or African American race, n (%)	263 (21.9)	85 (12.0)	9 (18.8)	169 (38.1)
Hispanic or Latino ethnicity, n (%)	214 (17.8)	109 (15.4)	8 (16.7)	97 (21.8)
New PrEP starters, n (%)[2]	331 (27.5)	164 (23.1)	11 (22.9)	156 (35.1)

SD, standard deviation
1. Evidence of transgender experience was based on a diagnosis code-based algorithm incorporating history of gender dysphoria and gender-affirming surgery or hormone therapy.
2. New PrEP starters defined as no evidence of oral PrEP during baseline

Table 1. Baseline Characteristics.

	OVERALL	COMMERCIAL	MEDICARE	MEDICAID
2nd initiation injection within 37 days, n/N (%)[1]	732/1,024 (71.5)	-	-	-
2nd initiation injection within 60 days, n/N (%)[2]	886/1,024 (86.5)	-	-	-
Duration of interval between two continuation injections within 67 days, n/N (%)[3]	3,196/3,715 (86.0)	-	-	-
Duration of interval between two continuation injections within 90 days, n/N (%)[4]	3,577/3,715 (96.3)	-	-	-
Adherence: PDC, median (IQR)	1.00 (0.96, 1.00)	1.00 (0.96 , 1.00)	1.00 (0.96 , 1.00)	1.00 (0.96 , 1.00)
Individuals with PDC ≥0.9, n/N (%)	1,048/1,202 (87.2)	617/709 (87.0)	44/48 (91.7)	386/444 (86.9)
Individuals with PDC ≥0.8, n/N (%)	1,161/1,202 (96.6)	685/709 (96.6)	48/48 (100.0)	427/444 (96.2)

IQR, interquartile range; PDC, proportion of days covered
1. Initiation injections should be given 1 month apart for 2 consecutive months. Individuals may be given CAB-LA up to 7 days before or after the date the individual is scheduled to receive the injections
2. For initiation injections, if the time since last injection was ≤2 months, administer CAB-LA as soon as possible, then continue to follow the every-2-month injection dosing schedule
3. Continuation injections should be given every 2 months. Individuals may be given CAB-LA up to 7 days before or after the date the individual is scheduled to receive the injections.
4. For continuation injections, if the time since last injection was ≤3 months, administer CAB-LA as soon as possible, then continue to follow the every-2-month injection dosing schedule

Table 2. CAB-LA Utilization and Adherence.

Conclusions: PrEPFACTS reports real-world high adherence to CAB-LA's dosing schedule, which is an important factor for ensuring effectiveness of HIV PrEP. Most injections occurred within allowable timeframes before reinitiation as required per label.

TUPEC053

Differential HIV incidence and PrEP-to-need ratio among a large, diverse cohort of people with Mental Illnesses in the U.S.

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Background: Mental illnesses (MI) like depression, schizophrenia, and bipolar disorder (BD) have been broadly associated with increased incidence of HIV. However, use of highly-effective pre-exposure prophylaxis (PrEP) for HIV prevention among people with MI is not well understood and data describing PrEP use are absent from the literature.

Methods: We utilized data from the Merative MarketScan® Commercial Claims Database between years 2010-2022 to identify patients with a diagnosis of: depression, BD, Schizophrenia/Schizoaffective disorder (schizophrenia).

We determined the number of new HIV diagnoses (defined as a two outpatient claims on different dates or one inpatient claim with an HIV-associated diagnosis code) and prescriptions for PrEP (defined as at least 28 days of TDF/FTC or TAF/FTC without prescription of another antiretroviral). The PrEP-to-Need ratio (PnR), representing the ratio of PrEP prescription and HIV incidence (per 100,000) was calculated as a measure of PrEP scale-up. National PnR data (available beginning 2012; publicly-available) was taken from AIDSVu.

Results: The cohort consisted of 3,105,922 people with depression, 333,851 with BD, and 45,070 with schizophrenia. HIV incidence (Fig. 1A) increased between 2010-2022 for people with depression (18.5 vs. 23.2), BD (18.9 vs. 47.2), schizophrenia (23.1 vs. 58.0) while the national HIV rate decreased (15.4 vs. 11.3). PnR (Fig. 1B) increased for all diagnosis groups between 2010-2022 including depression (0.3 vs. 11.3), BD (0.4 vs. 8.5), schizophrenia (0 vs. 3.7) and the national PnR also increased (0.24 vs. 11.6).

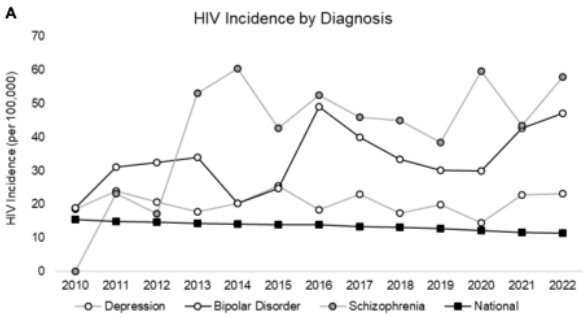


Fig. 1A

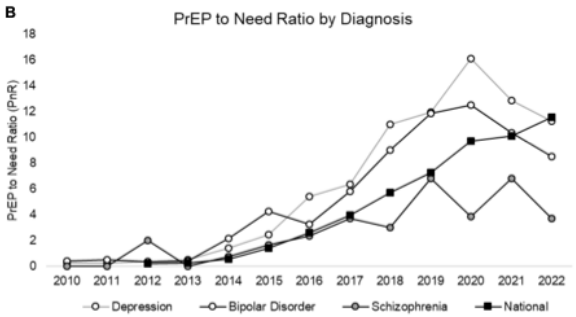


Fig. 1B

Conclusions: In this large, national analysis, commercially-insured people with schizophrenia experienced the highest HIV incidence and lowest PrEP use. While the PnR for all groups increased during the period of analysis, HIV incidence remained relatively constant or increased for all groups despite national decrease. Targeted efforts are needed to accurately identify people with MI who may benefit from PrEP and to include in the PrEP care continuum.

TUPEC054

Who wants PrEP? Factors related to PrEP interest among sexually active adolescents in urban and suburban pediatric primary care settings in the US

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Background: Adolescents aged 13–24 remain at high risk for HIV, yet pre-exposure prophylaxis (PrEP) uptake remains low. The CDC's 2021 guidelines recommend informing all sexually active adolescents about PrEP; however, data on PrEP interest and eligibility in pediatric primary care remain scarce.
This study aimed to identify demographic and behavioral correlates of PrEP interest among sexually active adolescents.
Methods: We analyzed cross-sectional data from adolescents (aged 13–21) who completed an Adolescent Health Questionnaire (AHQ), a tablet-based screener, during preventive visits from January 2021 to December 2024 at 32 primary care clinics in urban and suburban southeastern Pennsylvania and New Jersey in the US. Eligible participants reported sexual activity.
Our primary outcome was PrEP interest, defined as responding "yes" or "maybe" to "Would you like to speak with someone about PrEP today?" Using multivariable logistic regression, we examined associations between PrEP interest and variables such as sexual behavior, LGBTQ+ identity, race/ethnicity, STI testing history, and condom use.
Results: Among 24,415 sexually active adolescents, 8.9% (2,172) expressed interest in PrEP. The sample was diverse; 19.3% (4,705) identified as LGBTQ+, including 3.4% (829) as transgender or gender-diverse. The mean age was 17.2. In adjusted analyses, interest was higher among LGBTQ+ adolescents (aOR=1.82, 95% CI: 1.58–2.10), those interested in HIV/STI testing (aOR=14.63, 95% CI: 12.80–16.73), those with a history of STI (aOR=1.42, 95% CI: 1.21–1.67), and those with multiple sexual partners in the past 3 months (aOR=1.31, 95% CI: 1.07–1.60). Non-White adolescents had nearly twice the odds of PrEP interest compared to non-Hispanic Whites (aOR=1.89, 95% CI: 1.59–2.24). Condom non-use (aOR=1.26, 95% CI: 1.11–1.42) and attending a primary care clinic located in an urban area (aOR=1.24, 95% CI: 1.09–1.42) were also significantly associated with PrEP interest.
Conclusions: Although adolescents expressing interest in PrEP exhibited higher HIV risk, 91% of eligible adolescents did not express interest. Understanding why many eligible adolescents are not interested in PrEP is critical to addressing this gap. Future efforts should target public health messaging, sexual education, and strategies to engage eligible adolescents in PrEP counseling and prescribing within pediatric primary care.

TUPEC055

Acceptability and adherence to daily oral PrEP among adolescent girls and young women in sub-Saharan Africa: a randomized clinical trial comparing F/TAF and F/TDF

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Background: Adolescent girls and young women (AGYW) in sub-Saharan Africa face disproportionately high HIV infection rates and show low adherence to approved HIV prevention methods like F/TDF (Truvada®). F/TAF (Descovy®)-based regimens may offer advantages over F/TDF through higher intracellular levels of active metabolite at lower tenofovir doses (25mg vs 300mg), potentially improving efficacy, adherence and safety, while reducing costs and pill size.
Methods: We conducted a two-arm, randomized clinical trial among 330 AGYW without HIV aged 15-24 years across three sites (two in South Africa, one in Zimbabwe), comparing acceptability of and adherence to daily oral F/TAF (200mg/25mg) versus F/TDF (200mg/300mg). Participants, including pregnant and breastfeeding women, were randomized 1:1 to take either product for 24 weeks with local standard of care counseling. Acceptability was assessed through voluntary discontinuation rates and questionnaires at months 1, 3 and 6. Adherence was measured using dried blood spot (DBS) analysis.
We also examined individual, partner-related, clinical and cultural context variables, including HIV risk perception, self-efficacy and PrEP use stigma.
Results: Overall, participants reported high acceptability, with low voluntary product discontinuation rates (5% at month 3, 8% at month 6) that did not differ by PrEP product. However, DBS analysis revealed suboptimal adherence: fewer than 25% of participants showed protective drug levels equivalent to 4 or more pills per week at month 3, declining to 10% at month 6, when 52.1% of participants had drug levels below the level of quantification, suggesting no product use. The F/TAF arm demonstrated significantly higher adherence at month 3 compared to F/TDF (28% vs 17% taking ≥4 pills/week).
Multivariate regression analysis controlling for factors like age, education, and adverse events showed F/TAF was associated with higher odds of adherence than F/TDF (OR

1.54 [95% CI 0.97 - 2.43]). Qualitative data suggest that the smaller pill size and reduced antiretroviral-associated stigma of F/TAF may have contributed to better adherence.
Conclusions: While both oral PrEP products were acceptable, F/TAF characteristics appeared to support better adherence. However, with only a quarter of participants taking the products consistently, additional strategies to support adherence remain crucial for effective HIV prevention in AGYW.

TUPEC056

Characteristics of early non-persistors on Cabotegravir long-acting (injectable PrEP) compared to persistent users in the PrEPared to Choose study in Cape Town, South Africa

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Background: Long-acting injectable HIV pre-exposure prophylaxis (PrEP) options, including Cabotegravir long-acting (CAB-LA), are anticipated to mitigate persistence challenges seen with oral formulations. Few studies have delivered injectable PrEP in a real-world context, without research-related reimbursement.
People that seroconvert after stopping injectable PrEP are at risk of developing antiretroviral drug resistance, potentially complicating HIV treatment. The challenge is to optimise CAB-LA access, while curtailing delivery to users less likely to persist.
Methods: PrEPared to Choose (PtC) delivers CAB-LA as an option alongside oral PrEP and the vaginal PrEP ring to 1164 adolescents and young people (15-29 years) and their intimate male partners in Cape Town, South Africa. PrEP is offered from:
a. a mobile clinic, and;
b. a government primary healthcare facility.
Visits are noted on appointment cards with text reminders sent one week prior. Participants that do not return within 7 days are messaged, phoned, or visited at home. Information on how to stop CAB-LA safely is provided. We report baseline characteristics of PrEP users associated with their odds of returning vs not returning at month 1.
Results: Of 862 participants initiated on CAB-LA, 254 (29%) did not return at month 1 for their second injection. Of those that returned, 11% returned >28 days from their scheduled visit and were required to restart the CAB-LA regimen. Participants >19 years (OR 1.5, CI 1.09-2.30), that were PrEP experienced (OR 2.4, CI 1.53-4.09), had disclosed PrEP use (OR 2.59, CI 1.48-3.69), or that access CAB-LA through the mobile clinic (OR 1.42, CI 1.04-1.95) were more likely to return. Likelihood of return was similar amongst male and female participants (OR 1.12, CI 0.80-1.56) and not influenced by employment status (OR 1.03 CI 0.76-1.40). Participant return was not influenced by reason for PrEP use, HIV risk perception, number of sexual partners, having a sexually transmitted infection, mental health score, or alcohol misuse.
Conclusions: Early results from PtC, a real-world, minimal retention implementation science trial, show a high proportion of injectable PrEP users (71%) returning to continue PrEP. Older CAB LA users with PrEP-experience and those who accessed PrEP from community mobile clinic sites were more likely to return.

TUPEC057

Predictors of HIV pre-exposure prophylaxis preferences using the Health Belief Model: twice-yearly subcutaneous lenacapavir versus daily pills in the PURPOSE 1 trial

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Background: Twice-yearly subcutaneous (SC) lenacapavir demonstrated 100% efficacy in preventing HIV and superiority to daily oral emtricitabine-tenofovir disoproxil fumarate (F/TDF) in cisgender women in South Africa and Uganda with no safety concerns (PURPOSE 1 trial; NCT04994509). The majority of participants reported a preference for twice-yearly injections over daily pills. We analyzed factors that may predict preference for twice-yearly SC lenacapavir.
Methods: We utilized the Health Belief Model (HBM) to identify predictors of twice-yearly injection preference. The HBM is based on the idea that beliefs about health conditions influence health behaviors. Participants who received pre-exposure prophylaxis (PrEP) injections and daily pills at baseline, week (W) 26 and W52 visits were included (randomized, double-blind approach with active drug and SC/oral placebo). During visits, participants completed electronic surveys, which included Likert scale and multiple-choice questions about preference for twice-yearly injections or daily pills. Selected variables included baseline demographics, sexually transmitted infections, prior HIV testing and PrEP use, sexual behaviors, self-reported injection pain at W52, stigma-related concerns, and other reported feelings about PrEP by type. A logistic regression model was specified and fitted to explore covariates predicting twice-yearly injection preference. Standard-fit statistics were used; a two-tailed *P* value <0.05 was considered statistically significant.
Results: A total of 1997 participants met the preference study criteria; mean age was 21 years. Before trial entry, 82% (n=1638) received an HIV test and 95% (n=1895) had not taken any PrEP. At W52, 71% (n=1422) preferred twice-yearly injections over daily pills. Those who expected greater adherence with twice-yearly injections or who

felt more protected from HIV with twice-yearly injections were significantly more likely to prefer injections over daily pills (odds ratios: 52.3 and 9.8, respectively; both *P*<0.0001). Model-fit statistics indicated a good fit of the HBM to the data. No other variables were significantly associated with reported preferences.

Conclusions: Feelings of increased confidence in maintaining adherence on PrEP and of increased protection from HIV were significantly associated with twice-yearly PrEP injection preference. As PrEP modality options expand beyond daily pills, identifying factors that may predict PrEP preference will help PrEP users and their providers choose the optimal PrEP option for them.

TUPEC058

Early learnings from CAB-LA implementation in Zimbabwe

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Background: Despite existing HIV prevention options, UNAIDS reported approximately 17000 new HIV acquisitions in Zimbabwe during 2023,with approximately 25% contributed by key populations (KPs). To effectively address their diverse HIV prevention needs, there is a critical need to expand the range of available prevention options beyond existing methods.

Description: CeSHHAR rolled out long-acting injectable Cabotegravir (CAB-LA) among KPs in Zimbabwe at three sites. We initiated 944 persons between April and December 2024. Data from MoHCC registers and RedCap was analyzed for CAB-LA enrollment and continuation.

We used Kaplan-Meir method to analyze time until discontinuation for persons who received at least one injection, with discontinuation defined as missing more than 60 days from Initial Injection or over 90 days for subsequent injections.

Additionally, we utilized Cox Proportional Hazard models to explore the relationship between independent variables and CAB-LA discontinuation.

Lessons learned: Survival analysis revealed that highest risk of discontinuation occurs 60 days after the initial injection, with 16% probability, compared to subsequent injections that had lower risks: 5% for Injection 2, 11% for Reinjection 1,8% for Reinjection 2.Discontinuations were notably higher among younger persons (<25 years) at 28%, compared to 13% for older individuals (≥25 years) – see Figure 1.

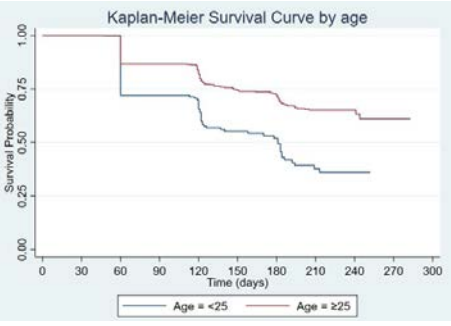


Figure 1.

PrEP naïve persons had higher discontinuation rates than those transitioning from oral PrEP(HR=1.62, 95% CI: 0.66 – 3.99). Participants in Harare and Hwange had a lower relative risk of discontinuation compared to Gweru, (HR=0.52, 95% C1: 0.27 – 0.98) and (HR=0.83, 95% CI: 0.64 – 1.07) respectively.

Conclusions/Next steps: CAB-LA has the potential for rapid integration into key populations programmes. The higher discontinuation rates among CAB-naïve participants after the initial injection highlight the need for intensifying person-centered support to improve early adherence. Younger KPs and those newly starting PrEP are particularly vulnerable, requiring tailored support to ensure sustained and effective use of CAB-LA.

Integration of HIV services with other services, including sexual and reproductive health services

TUPEC059

Correlates of objective doxycycline post-exposure prophylaxis adherence among cisgender women on daily HIV PrEP in Kenya

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Background: The use of event-driven post-exposure prophylaxis with doxycycline (doxyPEP), an antibiotic which is usually prescribed for sexually transmitted infections (STIs), is rising as a promising strategy to prevent STI transmission. Population characteristics associated with confirmed use of doxyPEP, especially in relationship with confirmed HIV pre-exposure prophylaxis (PrEP) use, are not well described. We describe the correlates of confirmed doxyPEP use among cisgender women taking HIV PrEP.

Methods: An open-label 1:1 randomized trial among 449 cisgender women taking oral PrEP in Kisumu, Kenya included participants randomized to take 200 mg of doxycycline PEP within 72 hours of condomless sex, or to standard of care, for 12 months. Quarterly, vaginal swabs were collected, STI testing conducted, and participants taking doxyPEP completed sexual activity and doxyPEP adherence diaries.

Plasma was collected at study exit. Among participants who reported taking doxyPEP following sex within five days of their quarterly visit, doxycycline and TFV/FTC con-

centrations in vaginal fluid and/or plasma were measured following standard methods and detection defined as >1.0 ng/swab and >10 ng/mL respectively.
We used generalizing estimating equation methods to assess baseline participant characteristics associated with doxyPEP detection, in addition to time-varying assessment of detectable TFV/FTC at that visit.
Results: Among 224 participants assigned to doxyPEP, 169 reported condomless sex in the six days preceding 401 quarterly visits and 161/169 (95%) reported taking doxyPEP. Among 123/161 participants, 240 samples were available and tested (61 plasma specimens and 179 vaginal fluid specimens). Doxycycline and TFV/FTC were detected in 20% (47/240) and 15% (36/240) of samples, respectively.
Age, not having a primary sex partner, transactional sex, hormonal contraceptive and having an STI diagnosis at baseline were not significantly associated with doxycycline detection. Participants with TFV/FTC detection at the same visit were more than 2 times more likely to have doxycycline detected (RR=2.66, 95% CI=1.63-4.32) compared to those where TFV/FTC was not detected.
Conclusions: Among cisgender women with a high prevalence of STIs, the use of doxyPEP was low but objective adherence was associated with concurrent detection of HIV PrEP. Our findings suggest that doxyPEP might have a greater impact among women adherent to PrEP.

TUPEC060

Implementing an MMR vaccination programme for adults living with HIV in response to a measles outbreak in London, UK

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Background: An outbreak of measles virus in the UK has resulted in 2,918 cases since January 2024. The British HIV association recommends that all adults living with HIV be screened for serological evidence of measles immunity and offered MMR vaccination if susceptible, provided they are clinically stable with CD4 counts >200 cells/mm^3.
Given falling MMR vaccination rates in the community and difficulty accessing vaccination through primary care for this group, we aimed to integrate measles immunity screening and vaccination into routine HIV care.
Description: Commencing in January 2024, the ongoing programme is based at the Alexander Pringle Centre in North London, a clinic providing HIV care to 1,450 adults. Testing for measles IgG targets all individuals entering or already engaged in routine care. Measles IgG seronegative individuals are screened by physicians for vaccine eligibility and counselled using agreed pathways. MMR vaccination is administered by nursing staff and recorded on the individual's national health record.
Lessons learned: A total of 1461 measles IgG tests were completed in January – November 2024, of which 77/1461 (5.3%; 95% CI 4.1-6.4%) were negative. Of these, 44/77 (57.1%) were male, median age 40 (IQR 19). Most (72/77, 93.5%) were eligible for vaccination, with contra-indications present in five (four had CD4 counts <200 cells/mm^3, one was receiving immunosuppressive therapy).
Of those eligible, 26/72 (36.1%) received a full course (two doses 1 month apart), 11/72 (15.3%) received one dose, 10/72 (13.9%) declined vaccination, 12/72 (16.7%) are pending physician discussion, 9/72 (12.5%) were out of care and 4/72 (5.6%) were vaccinated elsewhere.
Vaccine hesitancy was common and required careful counselling to address concerns and promote the benefits of vaccination. The key to success for our programme was flexibility. We offered both the MMRVAXPRO and PRIORIX vaccines to provide an alternative for clients who declined porcine gelatine.
Additionally, vaccination was offered opportunistically and at designated appointments. One client commented 'It was easy to book a convenient time and it was quick'.
Conclusions/Next steps: Integrating measles immunity testing and MMR vaccination into routine HIV care is feasible. It ensures ease of access to vaccination and promotes vaccine uptake, improving health outcomes for people living with HIV.

TUPEC061

Integrating PrEP and contraceptive services for adolescent girls and young women: lessons from DREAMS program implementation in five HIV high-prevalence districts in South Africa

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Background: The DREAMS program aims to reduce HIV acquisition and improve sexual and reproductive health (SRH) outcomes among adolescent girls and young women (AGYW) in high burden districts in South Africa, where the epidemic disproportionately affects AGYW.
The 6th South African National HIV Prevalence, Incidence, Behaviour and Communication Survey reports an HIV prevalence of 6.9% among AGYW aged 15-24 years compared to 3.5% among males of the same age group.
Additionally, recent data from Stats SA indicate that over 105,000 girls aged 10 to 19 gave birth between April 2022 and March 2023, underscoring the urgent need for integrated HIV prevention and SRH services.
Description: The study utilized programmatic data from Shout-It-Now's DREAMS program to assess the integration of PrEP and contraceptives services for AGYW living in two urban and three rural districts of South Africa. Data of AGYW's different PrEP dispense dates was collected through Shout's electronic Clinical Management System and stored in a structed SQL database.
Quantitative descriptive analysis compared PrEP uptake and refill rates for four months before (Apr – Jul 2021) and after (Feb – May 2022) the launch of contraceptives services. Outcomes included the percentage increase in PrEP

initiations and refills and the proportion of clients receiving both PrEP and contraceptives services on the same day.

Lessons learned: PrEP uptake increased by 169% (6,187 vs. 2,297) after integrating PrEP and contraceptive services. Similarly, refill rates rose by 94% (1,723 vs. 889). Among those served, 29% of clients initiated on PrEP received contraceptives on the same day, while 24% received PrEP refills and contraceptives simultaneously.

These findings demonstrate the effectiveness of service integration in improving access to PrEP among AGYW, highlighting the potential of integrated delivery models to enhance comprehensive sexual and reproductive health services.

Conclusions/Next steps: The DREAMS program's integrated PrEP and contraceptives service approach demonstrates enhanced uptake and continuation of PrEP services in addition to improved access to contraceptives that prevent teenage pregnancy among AGYW in high-burden districts. This approach provides a scalable and impactful framework for reducing HIV incidence and improving SRH outcomes in similar high prevalence settings.

TUPEC062

Women's preferences for embedding PrEP delivery within STI and reproductive health services in Uganda – results from a discrete choice experiment

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Background: HIV prevention is paramount for adolescent girls and young women (AGYW) in Uganda and oral PrEP is not always a suitable option. With emerging novel HIV prevention products (e.g. ring, injectables), there are opportunities to explore AGYW preferences to inform strategies for expanding PrEP programs and launching new multi-product PrEP programs.

Methods: From January–September 2024, we recruited AGYW aged ≥18-25 years from community sites in Kampala, Uganda for a cross-sectional discrete choice experiment (DCE) to determine the most preferred attributes and levels of multi-product PrEP programs.

Choices for PrEP programming were described as they currently exist for Ugandan oral PrEP provision. The DCE was developed via literature review, informal conversations with AGYW, and cognitive interviewing among AGYW using a prototype. In the final iteration, attributes (and levels) included: method of PrEP information dissemination (WhatsApp, brochure, in-person consultations), PrEP counseling delivery (virtual, group, in-person counselling), proximity of PrEP location (nearer to or far from work, school, home), type of facilities offering PrEP (private or government clinic, pharmacy), availability of additional services (STI testing and treatment, family planning, no additional services), client wait times (5, 30, 90 minutes), and associated costs (small cost, no cost for PrEP). Participants responded to 9 randomly-assigned choices of 2 scenarios when asked, "Which PrEP program would encourage you to use PrEP?" We used multinomial logit modeling to estimate preference weights and importance scores.

Results: Of 343 screened, 300 AGYW consented to participate (median age: 21 years, IQR: 20-23) with 38.3 % having oral PrEP experience and 71.7% reporting recent condomless sex. "Access to other services" in conjunction with PrEP dispensing had the greatest influence on PrEP program choice (importance score: 27%) with preference for STI testing and treatment (preference weight: 0.39, 95% CI: 0.32, 0.47) and family planning (PW: 0.14, 95% CI: 0.07, 0.21). Type of facility offering PrEP (9.7%), method used for PrEP information dissemination (10.2%), and proximity of the PrEP location (6.9%) were not influential on program choice.

Conclusions: Young women's preference for co-located STI and reproductive health and PrEP services indicates an opportunity to embed current and future PrEP delivery within these existing services.

Population-specific interventions for HIV prevention

TUPEC063

A cluster randomized trial of multi-disease vs HIV-focused recruitment strategies to promote biomedical HIV prevention uptake among adults at alcohol-serving venues in rural Kenya and Uganda

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Background: Alcohol-serving venues are sites of increased HIV transmission risk in sub-Saharan Africa. Optimal strategies to engage persons in pre-/post-exposure prophylaxis (PrEP/PEP) from these venues are unknown.

Methods: In 2023-2024, we conducted a cluster-randomized trial to compare recruitment strategies for adults (≥18 years, patrons and workers) at alcohol-serving venues for PrEP/PEP in rural Kenya and Uganda (NCT05862857). In eight communities (~10,000 persons/community), we mapped all alcohol-serving venues and created venue-clusters based on geographic co-location.
We randomized venue-clusters to:
a. Multi-disease mobilization and distribution of recruitment cards offering free screening/referral for broad services (hypertension, diabetes, tuberculosis, malaria, HIV); or;
b. HIV-focused mobilization and cards offering free screening/referral for HIV services only.
Both strategies offered transport reimbursement upon linkage to clinic-based screening. We hypothesized that multi-disease recruitment would increase PrEP/PEP uptake by mitigating HIV stigma and inaccurate risk perceptions. We compared new PrEP/PEP initiations among persons without HIV (primary endpoint) by recruitment strategy, accounting for clustering and missing data.
Results: We randomized 64 venue-clusters to multi-disease (N=32) or HIV-focused (N=32) arms: 2 clusters (1/arm) were excluded due to low numbers of cards distributed. Baseline characteristics were balanced by arm, with 242 multi-disease venues (88% informal; 81% Uganda; 14% with rooms for sex work) and 235 HIV-focused venues (89% informal; 82% Uganda; 12% with rooms for sex work). Of 9,348 cards distributed (4916 multi-disease, 4432 HIV-focused), 36% were to women and 83% to patrons; median age=32 (IQR:26-42).
Overall, 7727 (83%) persons linked for clinic-based screening. Of the 6111 (79%) testing HIV-negative, 1739 (28%) newly initiated PrEP/PEP; 101 (2%) were already taking PrEP/PEP. There was no difference in the primary endpoint by venue-based recruitment strategy; irrespective of linkage, 24% of recruited persons without HIV initiated PrEP/PEP in both arms (p=0.918). Results were similar by country and gender.
Conclusions: We found no difference in multi-disease vs. HIV-focused recruitment strategies on PrEP/PEP uptake among >9000 adults at >450 alcohol-serving venues. Both strategies resulted in high linkage (>80%) for screening, with over one-quarter of persons testing HIV-negative initiating PrEP/PEP, demonstrating that card-based recruitment with transport reimbursement is an effective strategy for engaging adults at alcohol-serving venues in biomedical HIV prevention.

TUPEC064

Satellite OST model for scaling up of opioid substitution therapy as part of harm reduction strategy for people who inject drugs under the National AIDS Control Program, India

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Background: National AIDS Control Programme (NACP) provides Opioid Substitution Therapy (OST) as a key harm reduction strategy for reducing HIV transmission and other drug use related harms among people who inject drugs (PWIDs) in India. The HIV prevalence continues to be highest among the People Who Inject Drugs (PWID) at 9.03 %, and injection route accounts for the majority of new HIV infections for 11 states in 2023-24.
Description: National AIDS Control Program (NACP) Phase V (FY 2022-26) has planned for scaling up of the OST program to cover fifty percent of the estimated PWIDs which is about 0.15 million. However, setting up new OST centres often has multiple challenges of human resource and infrastructure. To overcome these barriers, a no- cost satellite OST model was designed to be set up in existing health facilities such as primary health centres, health and wellness centres, prisons, community-faith based settings or TI-NGOs. The satellites serve as additional dispensing sites and are linked to a parent or full-fledged centre. In 2024-25 the satellite model has been scaled up effectively to 190 centres to enable coverage of 58,648 PWIDs with satellite centres accounting for over 21 percent coverage.

Year	Coverage of PWID on OST	No. of OST Centres	No. of Satellite Centres	% of PWID coverage by Satellite Centres
2021-22	42274	265	126	12
2022-23	50408	251	134	12
2023-24	54210	263	174	18
2024-25	58648	286	190	21

Lessons learned: Satellite OST centres increase accessibility by expanding service delivery points to PWIDs residing at far away locations, decongest OST centers with high client load and alleviate the burden on resources required for setting up full-fledged OST centres with a rational use of available health workforce.
Satellite OST model is able to integrate the often compartmentalised health system particularly at the primary levels for delivery of HIV prevention and treatment for opioid use disorders to PWIDs.
Conclusions/Next steps: The satellite OST model can be replicated to increase access to prevention and treatment services with addition of digital technology and tele-medicine. The larger health system can take up the satellite OST model for cost – efficient delivery of prevention and treatment services for substance use disorders and co-morbidities at the primary and secondary levels in resource constraint settings.

HIV testing

TUPEC065

Diagnostic outcomes among women with detectable HIV RNA after starting injectable cabotegravir within a multi-method PrEP market implementation study

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Background: Most countries use national testing algorithms with point-of-care (POC) rapid antibody tests to determine HIV status before starting pre-exposure prophylaxis (PrEP). Using cabotegravir (CAB) PrEP during undetected acute HIV infection could delay HIV seroconversion and increase risk of drug resistance. We examined diagnostic outcomes in women starting CAB PrEP with negative POC rapid tests and detectable HIV RNA.

Methods: CATALYST, a study implemented by the PEPFAR/USAID-supported MOSAIC project is currently offering oral PrEP, PrEP ring and CAB PrEP in Lesotho, South Africa, Uganda, and Zimbabwe. Consenting participants with a negative POC rapid test starting CAB PrEP as their first method or switching to CAB PrEP from another PrEP method had blood collected before CAB injection and sent to a local lab for HIV RNA. Testing after detectable RNA included repeat rapids, HIV RNA, qualitative DNA PCR and/or ELISA. Clients' CAB injections were paused pending repeat testing outcomes. Final HIV status and medication management were assessed from clinical records.

Results: During April–October 2024, 1,295/1,407 (92%) participants starting CAB PrEP had blood collected for RNA testing, and 1,261 (97%) had results returned. Five participants (0.6%) had detectable RNA. Three of the five participants had used oral or Ring PrEP within 30 days of starting CAB. Two participants with HIV RNA >10,000 c/mL had repeat positive rapid tests eight- and 21-days post initiation injection and were referred to start antiretroviral therapy (ART). Two participants with HIV RNA <1,000 c/mL had negative repeat HIV rapid tests and undetectable RNA levels five- and seven-days post-injection, followed by undetectable repeat RNA, negative ELISA and DNA PCR one-month post-injection. They received their second CAB injections 41- and 43 days after initial detectable RNA levels. The fifth participant had 694 HIV RNA c/mL; no follow-up was available.

Conclusions: In four cases of detectable HIV RNA at CAB PrEP initiation with follow-up test results, two continued CAB PrEP and two were referred for ART, indicating that RNA results did not clarify HIV status for individuals starting CAB PrEP. The utility of HIV RNA in HIV testing algorithms for PrEP initiation/ continuation should be further evaluated in programmatic settings.

TUPEC066

Strategic efforts to enhance HIV testing and case Identification among youths: leveraging index testing with integration of social network strategy (SNS) in the Tanzania's southern highlands regions

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Background: Tanzania has significantly improved HIV status awareness, from 61% in 2017 to 83% in 2023 (THIS 2023). However, adolescents and young people (AYP) aged 15–24 remain disproportionately affected, contributing to 42% of new acquisition and achieving only a marginal increase in case identification (52% to 54%) during the same period. Addressing this gap requires innovative, youth-specific strategies.

Description: From October 2023-September 2024, a youth-focused index re-elicitation approach was implemented at 171 high-volume sites in the Southern Highlands Regions. HIV-positive youths aged 15-24 enrolled in care were line-listed, and their close contacts were comprehensively re-elicited and integrated with Social Network Strategy coupons distribution at health facilities and community sites, enabling AYP to recruit high-risk peers for HIV testing using unique referral codes for tracking. Peer support systems were integrated to create a stigma-free environment that encouraged disclosure and participation. Data were collected through routine monitoring systems, focusing on HIV case identification and linkage to care outcomes.

Lessons learned: Integrating index testing and SNS led to notable increases in testing coverage and case identification. Among 15-19-year-olds, HIV testing rose by 76% (809 to 1,422), with positives identified more than doubling (47 to 96). HIV testing for 20-24-year-olds increased by 8% (1,504 to 1,628), with a 33% increase in positives identified (169 to 225). Results from SNS yielded a 265% increase in testing (189 to 689) among 15-19-year-olds, and 229% for 20-24-year-olds (573 to 1,887). Positives identified through SNS rose by 450% (2 to 11) and 95% (19 to 37), respectively. Peer support facilitated proxy linkage (number enrolled divided by number newly tested positive), improving rates from 107% to 121% for 15-19-year-olds and from 91% to 97% for 20-24-year-olds. High-risk HIV-negative AYP were successfully linked to appropriate prevention services.

Conclusions/Next steps: Incorporating SNS and peer support into the youth-focused re-elicitation approach effectively bridged critical gaps in HIV testing, case iden-

tification, and linkage to care. This youth friendly, socially integrated model demonstrates scalable potential for high-burden areas to achieve UNAIDS first 95 targets.

Cascades of HIV prevention, treatment and care

TUPEC067

Spatiotemporal trends and progress toward UNAIDS 95-95-95 targets in Zimbabwe: insights from ZIMPHIA 2015 and 2020

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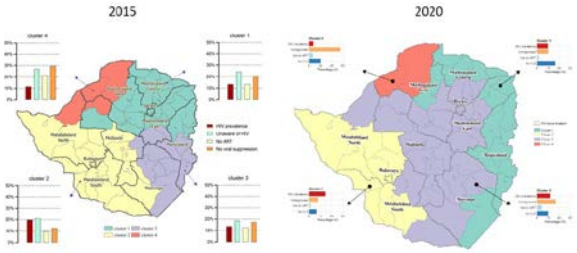
Background: Zimbabwe has made substantial progress toward achieving UNAIDS 95-95-95 targets. However, geographic and demographic disparities persist. Using Zimbabwe's 2015-16 and 2020 Population-Based HIV Impact Assessments (ZIMPHIAs), we compared and forecasted spatiotemporal trends in HIV prevalence, diagnosis, treatment, and viral suppression (VLS) to evaluate progress and identify persistent gaps delaying epidemic control.

Methods: We conducted a comparative analysis of ZIMPHIA 2015-16 and 2020 data using spatial and statistical modeling. Geographic disparities were identified using Getis-Ord hotspot analysis and K-means clustering. Temporal projections incorporated logistic growth models, accounting for diminishing returns, resource constraints, and demographic shifts. Data were stratified by age and gender to assess subgroup-specific gaps.

Results: Between 2015 and 2020, diagnosis (awareness) improved from 76% to 87%, ART coverage increased from 88% to 97%, and VLS rose from 85% to 90%. Geographic disparities decreased, with ART coverage gaps shrinking from >15% in 2015 to <3% in 2020.

However, clusters of undiagnosed PLHIV (>14%) persisted in Mashonaland Central and northern Midlands, while hotspots of non-suppression (>11%) remained in Mashonaland Central, Mashonaland West, and Matabeleland North. K-means analysis revealed distinct trends across four clusters, with Cluster 4 (Mashonaland West) showing the highest burden of undiagnosed PLHIV and non-suppression in both years (Figure).

Temporal projections estimate that Zimbabwe could achieve 95-95-95 by 2030 under current trends, but resource-constrained scenarios could delay target achievement beyond 2030. Gender disparities persisted, with men aged 25-34 showing lower awareness (62% vs. 81%) and viral suppression in younger age groups (15-24 years; 71% vs. 84%) compared to women.



Conclusions: Zimbabwe has achieved significant progress, particularly in reducing regional disparities in ART coverage. However, undiagnosed clusters and viral load non-suppression persist in several sub-regions and demographic subgroups. This study's comparative spatiotemporal projections underscore the importance of targeted testing, adherence programs, and male-focused interventions to address care continuum.

TUPEC068

Optimizing strategies to integrate Latino community stakeholders from the United States to promote HIV services in their communities

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Background: HIV incidence overall has dropped in the United States, but continues to increase among Latinos. In California, Latinos comprise the largest number of people newly diagnosed with HIV. Increasing HIV services with status-neutral linkage among Latinos is crucial to ending the epidemic, but few studies have leveraged their perceptions about optimal strategies to increase HIV services, especially among immigrants.

This study aims to identify culturally and linguistically appropriate strategies to improve HIV services for Latino immigrant cisgender male sexual minorities.

Methods: An exploratory-descriptive qualitative study design was administered to explore perspectives from HIV service providers on how to enhance HIV interventions for Latino immigrant cisgender male sexual minorities in San Francisco. Service providers were recruited to participate in focus groups administered in English (n=8) and Spanish (n=6). Focus group recordings were transcribed verbatim, cleaned, and prepared for data analysis. Rapid qualitative data analysis was used to identify prominent themes based on the original language of the focus group; research findings were translated from Spanish to English.

Results: Overall, 14 service providers (5 cisgender males, 5 cisgender females, and 2 transgender females) participated in the study; the majority identified as Latino (n=13) and heterosexual (n=8). Five themes emerged, all with a shared emphasis on healthy communities:

1. Establ[mg1] ishing a Sense of Community – promoting collectivistic cultural beliefs and values that encourage healthy communities through social activities;

2. Peer-Based Interventions – training people in the community to develop culturally informed approaches by peers sharing their lived experience;
3. HIV Stigma – emphasizing that everyone is susceptible to HIV and informing the general Latino community that HIV is preventable (Undetectable=Untransmittable and PrEP);
4. Holistic Wellness - offering HIV testing during routine medical screenings, and;
5. PrEP – developing culturally and linguistically appropriate campaigns addressing concerns and benefits associated with PrEP.

Conclusions: Findings suggest that peers are more influential in engaging people from their social networks by demonstrating and articulating the effectiveness of HIV services. Service providers can facilitate peer-based interventions by providing spaces to congregate, trainings to be certified health promoters, and formal collaborations with community stakeholders to develop culturally and linguistically appropriate peer-based HIV interventions.

TUPEC069

Using machine learning to personalize HIV care and reduce treatment interruptions for people living with HIV: results from an 11-month implementation study in Nigeria

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Background: Interruption in treatment (IIT) among people living with HIV (PLHIV) in Nigeria significantly impacts viral suppression and health outcomes. IIT rates can reach 49%, as current care models struggle to identify and address at-risk clients, leading to preventable setbacks and drug resistance.
This study evaluates how leveraging electronic medical record system (EMR) data, machine learning (ML)-driven risk scores, and digital tools empowered healthcare workers (HCWs) in Nigeria to shift IIT management from reactive to proactive, reducing IIT rates.
Methods: This quasi-experimental study assessed the effectiveness of an ML-based IIT risk scoring model integrated with an EMR-linked client management (CM) mobile application. The model predicted IIT risk and enabled HCWs to deliver personalized, risk-based interventions. Health facilities were randomized into 30 intervention sites using the IIT risk score-enabled CM app and 19 control sites with the standard app. A total of 66,308 clients were included. Quantitative and qualitative data from December 2023 to November 2024 assessed feasibility, acceptability, and effectiveness, focusing on adoption, user experience, and client outcomes.
Results: Between December 2023 and November 2024, 167,193 visits were recorded for 66,308 clients. The app classified 9% of clients as high-risk, 49% as medium-risk, and 42% as low-risk for IIT. HCWs spent 76% more time on high-risk lists (12.4 seconds) than on low-risk lists (7.0 seconds). Enrolled clients achieved a fourfold greater IIT reduction compared to control facilities. ML-driven scores reliably identified client risks, although HCWs overruled AI recommendations in 5% of high-risk cases.
Multi-month dispensing (MMD6) reduced IIT for low-risk clients (22%) but was less effective for medium- and high-risk groups (26% and 31%). MMD3 demonstrated consistent performance across all risk levels.
Conclusions: The ML-driven IIT risk scoring model significantly reduced IIT by enabling proactive, personalized care. Enrolled clients saw a fourfold IIT reduction compared to the control group, demonstrating the effectiveness of risk-based interventions. Integrating AI tools into routine care enhances HCW efficiency and client outcomes, with targeted approaches recommended for high-risk groups.

TUPEC070

Characteristics and clinical outcomes of mother-infant pairs with HIV exposure and breastfeeding experience: observational cohort in the United States

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Background: Infant feeding guidelines for mother-infant pairs with perinatal HIV exposure (MIPHE) in the United States (US) significantly evolved in recent years. National data on breastfeeding outcomes among MIPHE remains limited. We aimed to evaluate the characteristics and clinical outcomes of MIPHE cared for at Children's National Hospital (CNH) in Washington, DC.
Methods: A retrospective cohort of MIPHE in care at CNH from January 2018 through July 2024 was analyzed. Data were extracted from mothers' referral forms (maternal demographics, HIV diagnosis duration, HIV viral load before delivery, and antiretroviral treatment information) and infants' medical records (infant demographics, birth parameters, antiretroviral prophylactic drugs, breastfeeding duration and complications, and HIV testing results). Infants were deemed definitively HIV negative after two negative HIV RNA tests following breastfeeding cessation.
Results: Twenty-one mothers with HIV (median age=33 years [IQR:29-37]; 95.2% African American/Black or African; median HIV diagnosis duration=8 years [IQR:4-12]) breastfed 22 infants (54.5% female, 86.4% with low-risk HIV exposure, 68.2% prescribed zidovudine only).
Known maternal regimens (n=20) before delivery were 2NRTI+1NNRTI (13.6%), 2NRTI+1PI (13.6%), and 2NRTI+1INSTI (63.6%). Majority (77.3%) of MIPHE attended their first postnatal appointment within 4.5 weeks (range:2-64.9).
Median breastfeeding duration was 11 weeks (IQR:5-36), and 13 (59.1%) MIPHE mixed breastfeeding with formula feeding (n=11, 84.6%) and/or solid oral feeding (n=3, 23.1%).

Nine (42.9%) mothers reported complications (low milk supply (n=4), viral blips (n=3), difficulty latching (n=2), sore nipples (n=1), and clogged milk duct (n=1)) while breastfeeding.
Among three mothers who experienced viremia while breastfeeding (range: 30-1,700 copies/mL), two continued breastfeeding and one stopped after a single viral load of 60 copies/mL.
Eleven infants were lost to care while breastfeeding (n=4) or after one HIV test (n=7); one MIPHE transferred care. Only 10 (45.4%) infants were deemed definitively HIV negative.
Conclusions: Our cohort of MIPHE in the US had a relatively short median breastfeeding period with over half mixing breastfeeding with formula and/or oral solid feeding. A high proportion of MIPHE was lost to care; less than half completed recommended HIV testing after discontinuing breastfeeding. More data on infant feeding practices are needed to design optimal clinical and support services for MIPHE in the US.

TUPEC071

Low HIV pre-exposure prophylaxis use despite high interest among individuals with behavioral vulnerability to HIV in Uganda

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Background: Pre-exposure prophylaxis (PrEP) is effective for preventing HIV, but global uptake is suboptimal. We assessed factors associated with PrEP use and preferences in a Ugandan cohort.
Methods: From October 2022 to September 2024, we enrolled individuals aged 14-55 years without HIV in Kampala, Uganda, who reported recent sexually transmitted infection (STI), injection drug use (IDU), transactional sex, condomless sex, and/or anal/neovaginal sex with male/transgender partners.
Participants were asked about PrEP knowledge, PrEP use, and interest in various types of PrEP. We used robust Poisson regression with purposeful variable selection to estimate adjusted prevalence ratios (aPRs) and 95% confidence intervals (CIs) for variables associated with ever taking PrEP and currently taking PrEP.
Results: Among 415 participants, 57.1% were female, 32.5% were men who have sex with men, and 81.2% were aged <24 years. While 95.9% of participants had ever heard of PrEP, only 41.9% were currently taking PrEP (Figure).
Most participants who had ever heard of PrEP reported interest in PrEP (96.0%), with greater interest in daily pills (80.0%) than on-demand pills or monthly injections (67.4% and 65.0%, respectively, McNemar's p<0.001 for each comparison to daily pills).
Among participants who had ever heard of PrEP, ever taking PrEP was associated with living near a medical facility (≤3km vs. >3km, aPR 1.25 [95%-CI 1.00-1.56]) and having taken multiple courses of post-exposure prophylaxis (>1 vs. ≤1, aPR 1.50 [1.23-1.83]).
Among those who had ever taken PrEP, current use was lower among participants assigned male at birth (aPR 0.78 [0.61-1.00]) and greater among younger participants (<24 vs. ≥24 years, aPR 1.49 [1.08-2.06]).

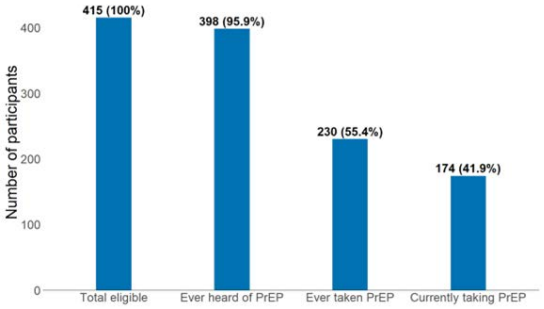


Figure. Cascade of PrEP knowledge and persistent usage among individuals with behavioral vulnerability to HIV in Uganda.

Conclusions: Despite high interest in PrEP, uptake and persistence among participants in our study remain suboptimal. Increasing PrEP options and improving access to facilities may increase PrEP initiation. Interventions to improve PrEP persistence are needed for older males with behavioral vulnerability to HIV.

TUPEC072

Tailored interventions to enhance ART adherence and viral suppression in children: insights from Niger State, North-Central Nigeria

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Background: Children living with HIV (CLHIV) aged 0-14 face significant challenges in achieving viral suppression and improved health outcomes due to unique barriers they face.
Despite conventional Enhanced Adherence Counseling (EAC) support and the availability of pediatric antiretroviral (ARV) formulations and dosing which is "child-friendly", only 17% of unsuppressed CLHIV in Niger State achieved suppressed viral load results after post-EAC sample collection between January to March.
Key barriers to adherence include orphanhood, limited caregiver oversight, lack of targeted support, and self-stigmatization.
The study evaluates the impact of tailored ART adherence support on viral re-suppression among virally unsuppressed CLHIV in Niger State.

Methods: A total of 71 virally unsuppressed CLHIV post EAC were identified between April and October 2024 from 18 facilities in 18 LGAs and were enrolled in a tailored intervention program.

The interventions are as follows:

- v Family Therapy: Creating supportive environments by integrating ARV intake into daily routines, such as family prayer times, to serve as reminders and a family member is assigned to monitor compliance and report on WhatsApp platform,
- v Linkage to OVC Case Managers: Facilitating comprehensive care for orphans and vulnerable children (OVC),
- v Organized OTZ Meetings: Peer-led gatherings where children were motivated by success stories shared by others, fostering a sense of hope and possibility,
- v Intensified ART Adherence Counseling: Conducted by trained ESM Nurses emphasized the importance of adherence while nurturing a hopeful vision for the child's future.
- v Self-Stigmatization Mitigation: Individualized counseling addressed personal challenges,

Results: 57 (80%) completed the tailored intervention and underwent re-bleeding. The intervention led to a significant improvement, with 77% of the participants achieving viral re-suppression rate. Additionally, there was a reduction of 69% in relapse rates among the participants.

Conclusions: The findings underscore the effectiveness of tailored and sustainable ART adherence support via Family therapy, caregiver engagement, and focused individualized counseling in overcoming barriers to viral suppression among CLHIV.

Monitoring the epidemiology, impact and prevention of new or resurgent pathogens

TUPEC090

Safety, efficacy, and immunogenicity of mpox vaccines: a living systematic review and meta-analysis

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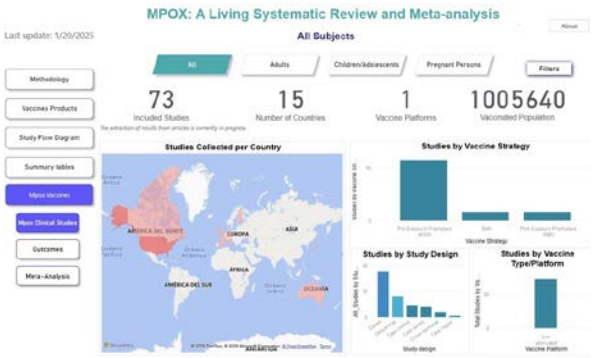
Background: Mpox became a global health concern after the 2022 outbreak, posing a significant threat to vulnerable populations, including children, pregnant individuals, and immunocompromised persons. To address the evolving evidence on mpox vaccines, we developed a living systematic review (LSR) to continuously evaluate their safety, efficacy, and immunogenicity, informing public health strategies and improving outcomes for affected populations.

Methods: We conducted a LSR and meta-analysis to evaluate the safety, efficacy, and immunogenicity of mpox vaccines in the general population, children, and pregnant individuals. The review adhered to PRISMA guidelines and was registered in PROSPERO (CRD42024586205, CRD42024591322). Eligible studies included randomized controlled trials and observational studies. Two reviewers performed data extraction independently, and the risk of bias was assessed using established tools.

Meta-analyses were performed using a random-effects model to calculate pooled estimates and 95% confidence intervals (CIs) for primary outcomes. The vaccine effectiveness (VE) was calculated using the formula VE=(1−RR)×100, where RR represents the risk ratio derived from the data.

Results: 73 studies, including clinical trials and observational studies with 1,005,640 vaccinated individuals, met the inclusion criteria. Of these, 65 studies focused on adult and adolescent populations, 9 on children, and 6 on pregnant individuals. The pooled vaccine effectiveness estimate for the MVA-BN vaccine in adults was 64% (95% CI: 34–81%).

Adverse events were reported at varying rates, with fever occurring in 7 per 100 observations (95%CI: 3–11%) and rash in 3 per 100 observations (95%CI: 0–14%). Substantial heterogeneity was observed across studies, driven by differences in study populations, vaccines, and outcome reporting.



Conclusions: Mpox vaccines demonstrate promising efficacy and a safety profile in adult populations. However, significant data gaps remain regarding their use in pediatric and pregnant populations.
Addressing these gaps through targeted research is critical to support vaccine implementation and optimize public health outcomes.

Social science theories, frameworks, concepts and methods

TUPED073

Using qualitative data to design a discrete choice experiment for measuring preferences for differentiated HIV care in western Kenya

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Background: Differentiated service delivery (DSD) models aim to improve HIV treatment outcomes by tailoring services to client needs. While discrete choice experiments (DCEs) are a robust method to quantify preferences for health services, their validity depends on identifying attributes that matter to clients.
We report how qualitative data were systematically translated into a DCE instrument to assess preferences for current and emerging DSD models in Kisumu, Kenya.

Methods: Attributes influencing client preferences were explored through a literature review, 32 in-depth interviews (16 with healthcare workers and 16 with clients), and 7 focus group discussions (FGDs) across eight clinics. Twenty key attributes were identified, achieving saturation of themes and ensuring coverage of relevant constructs.
A dot voting exercise was subsequently conducted during three FGDs (8 participants per FGD). Each participant was allowed 20 points to allocate across 20 attributes for each of two rounds of voting, with discussion following each round.
The most prioritized attributes, combined with qualitative findings, informed the initial DCE design. Attributes and levels were further refined through pilot testing and think-aloud interviews (n=12). Data from the pilot test were used to finalize the DCE instrument, optimizing for statistical efficiency.
Results: In-depth interviews and FGDs identified a spectrum of constructs shaping client preferences, including confidentiality, convenience, and social support. Attributes such as reduced opportunity costs (e.g., travel time and costs) and concerns on confidentiality were well understood and commonly discussed, while engagement in shared decision-making required additional exploration to ensure comprehension.
The dot voting exercise helped to quantitatively prioritize 20 attributes, bridging qualitative insights into the DCE design.
Think-aloud interviews refined these attributes and confirmed the instrument's clarity and relevance to clients.
The final DCE instrument included the six attributes: location, frequency of medication pick-up, total time of clinic visit, availability of additional health services, adherence support and counseling, and confidentiality.
Conclusions: A comprehensive approach involving qualitative interviews, a prioritization exercise, and think-aloud interviews helped systematically identify and refine the attributes and levels for the DCE, providing a robust framework for developing a tool that is relevant and meaningful to client preferences.

Social and behavioural aspects and approaches to HIV prevention and living with HIV

TUPED074

Peer-led adolescent-friendly service delivery models for fast-tracking viral load suppression and overall well-being among adolescents living with HIV

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Background: Project ACCELERATE, supported by PEPFAR/USAID, aims to improve the health and well-being of adolescents living with and affected by HIV/AIDS (ALHIV) through innovative, adolescent-friendly health centres (AFHC). The services integrate value-added, non-HIV entry points such as martial arts classes, music sessions, and casual makeup courses, fostering adolescent participation while addressing sexual and reproductive health (SRH), mental health, and HIV prevention in a peer-led model.

Description: The AFHCs serve as platforms offering individualised peer led support and leadership skill development alongside HIV-related services. ALHIV are categorized into two groups—cases requiring intensive or routine services—based on six indicators: recent antiretroviral therapy (ART) initiation, unsuppressed viral load, ART adherence <95%, opportunistic infections, incomplete tuberculosis preventive therapy, and loss to follow-up.

Tailored interventions, guided by an ART adherence barrier assessment tool, address individual challenges, such as stigma, emotional issues, and treatment side effects.

Support groups led by 20 trained treatment champions provide peer support and role modeling, significantly influencing ART adherence and health-seeking behaviors. Peer norms are reinforced through community events and targeted support group meetings, especially for virally unsuppressed adolescents.

Lessons learned: Acceptance of HIV status emerged as a critical factor for improving ART adherence and viral suppression. Peer-led approaches fostered better treatment outcomes and well-being by addressing barriers beyond clinical issues. Support groups for virally unsuppressed cases proved transformative, promoting peer-driven solutions and strengthening adherence behavior.

As of December 2024, the AFHC established in Imphal, Manipur, served 206 ALHIV, achieving 100% ART initiation, 99.5% viral testing eligibility, and 98.05% viral suppression from 70% VL suppression as compared to the baseline in January 2021.

Conclusions/Next steps: The peer-led AFHC model demonstrates a scalable and sustainable strategy for fast-tracking viral load suppression among ALHIV.

Standard operating procedures developed through this initiative are being adapted for scale-up within government programs, highlighting the potential for national implementation.

TUPED075

Urban gardens and peer nutritional counseling for improving HIV clinical outcomes: scaling and evaluating the *ProMeSA* intervention among people with HIV in the Dominican Republic

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Background: HIV and food insecurity pose severe and interrelated problems in Latin America and the Caribbean, including in the Dominican Republic (DR), where HIV is one of the top 5 causes of death and our prior studies have found nearly 70% of people with HIV (PWH) have moderate or severe food insecurity. Despite the established, detrimental role of food insecurity on poor HIV treatment outcomes, evidence on sustainable interventions that address the cycle of food insecurity and poor HIV health is scarce.

Previously, we developed and rigorously piloted an intervention integrating urban gardens and peer nutritional counseling [*ProMeSA (Project to Improve Food Security)]* in the DR and found it feasible and acceptable, and it improved food security and HIV virologic suppression at 6 and 12 months.

Description: We are now conducting a fully powered cluster randomized controlled trial to assess *ProMeSA's* efficacy evaluated over a longer period (18 months).

Our design will determine ProMeSA's impact on the primary outcome of HIV viral suppression [undetectable HIV viral load (VL)] and secondary outcomes of ART adherence and HIV care retention among adults with food insecurity across diverse regions in the DR.

We will also assess intermediate outcomes and potential mediation based on our conceptual framework, as well as barriers and facilitators to intervention uptake, implementation, and sustainability. The trial will include up to 20 HIV clinics randomized to intervention or usual care control (with up to 25 participants per clinic and 500 total study participants).

Lessons learned: Urban gardening is a promising upstream intervention to improve food security and health of PWH across nutritional statuses. Given the high prevalence of food insecurity among PWH in the DR and other low-resource settings and its consistently negative effects on HIV-related outcomes, research is urgently needed to

assess the efficacy, causal pathways, and factors affecting intervention scale-up of sustainable food security interventions for PWH across diverse settings.

Conclusions/Next steps: *ProMeSA* will be the first full-scale trial to integrate peer nutritional counseling with food-generating activities among PWH and food insecurity, in support of national and international goals to achieve viral suppression and reduce the disease- and economic burden of HIV.

TUPED076

Adverse childhood experiences among young women accessing contraception and HIV PrEP at retail pharmacies in Kisumu, Kenya

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Background: Adverse childhood experiences (ACEs) negatively impact lifelong health behaviors, including behaviors associated with HIV acquisition. Adolescent girls and young women (AGYW) in Kenya face disproportionately high HIV incidence and are a priority population for HIV pre-exposure prophylaxis (PrEP). Understanding ACEs and PrEP use among AGYW in Kenya is key to improving PrEP uptake and reducing HIV incidence.

Methods: We analyzed data from an ongoing cluster randomized controlled trial (NCT05467306) assessing pharmacy-based PrEP delivery among AGYW (aged 15–24 years) seeking contraception at 20 retail pharmacies in Kisumu, Kenya. Data on adverse childhood experiences (ACEs), sociodemographic factors, and sexual behaviors were collected. ACEs were measured using the ACEs International Questionnaire (ACE-IQ; 10 items), assessing abuse (physical, emotional, sexual), neglect (physical, emotional), and household dysfunction. ACE-IQ scores ranged from 0 to 10 points; scores <4 were defined as low, and scores ≥4 as high based on established cut-points. Poisson regression identified cofactors associated with high ACE scores.

Results: Between May 2023 and December 2024, 1531 AGYW enrolled in the trial; the median age was 21 years (IQR 19–23). The majority were unmarried (83%, 1234/1531), reported having casual sexual partner(s) (59%, 903/1531), had experienced a prior pregnancy (54%, 827/1531), and reported ever experiencing intimate partner violence (41%, 628/1531). Overall, 82% (1255/1531) took up oral PrEP or DPV-VR at enrollment. Most AGYW, 85% (1301/1531), experienced at least one ACE (score ≥1), and roughly 42% (643/1531) had experienced high ACE (score ≥4). High ACE scores were associated with engagement in transactional sex (11% vs. 3%, PR=3.57, 95% CI 2.17–5.89, p<0.001) and having a prior pregnancy (50% vs. 38%, PR=1.32, 95% CI 1.17–1.50, p<0.001) compared to those with low ACE. PrEP acceptance was similar among AGYW with high and low ACE scores (82% vs. 81%, p=0.696).

Conclusions: AGYW accessing contraception at retail pharmacies in Kenya had high ACE scores, particularly among those with characteristics associated with HIV acquisition. Scaling up pharmacy-based sexual and reproductive health services, such as HIV PrEP, can effectively reach AGYW at high HIV risk, including those with ACEs, reducing incidence and improving health outcomes in this vulnerable population.

TUPED077

Perceptions of changes in risk factors and adherence as a result of engaging in a packaged intervention during the early ART initiation period

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Background: People living with HIV often struggle to be adherent to antiretroviral therapy (ART) medications after initiation, particularly if they experience risk factors such as depression, substance use, and HIV stigma. In community clinics in Cape Town, South Africa, the SUSTAIN trial is assessing whether combinations of adherence monitoring (via electronic monitoning using Wisepill, pharmacy refill, and Viral Load test) and support interventions (weekly text messages, counseling using motivational interviewing) improve adherence post-initiation. Serial interviews explore the influence of interventions on risk factors and adherence over time. Here we describe participants' perceptions of changes after one year on treatment.

Methods: 512 individuals were enrolled in SUSTAIN between March 2022 and March 24. At enrollment, we administered a questionnaire assessing six self-reported risk factors using validated scales. Among participants who screened positive for 1+ risk factors, we identified 60 for serial interviews (baseline, months 12 and 24), selected for a range of risk factors, genders, and ages. IDI guides queried experiences with risk factors, recent changes, and influence of interventions on motivation and capacity to be adherent. IDIs were repeated one year later with participants who attended month 12 clinic visits. We conducted content analysis in Nvivo®.

Results: A total of 27 (45%) participants engaged in a month 12 IDI. Among them, 74% had screened positive at enrollment for depression, 59% for food insecurity, 44% for substance use, 30% for transport/clinic issues, 22% for HIV

stigma, and 22% for gender inequity. Before month 12, 16 (59%) were identified as non-adherent. A key theme in IDIs was the positive impact of enhanced counseling on several risk factors, including substance use, mental health challenges, and food insecurity.
Following counseling and strategizing on managing/reducing substance use, food consumption (not required with medication), and seeking support, including disclosure, participants described increased ability to take their medications. Some participants also believed Wisepill use for monitoring improved their attention to adherence.
Conclusions: Monitoring and support interventions such as enhanced counseling may improve adherence over time by ameliorating known risk factors. More research to better understand the mediating role of risk factors in adherence behavior is urgently needed.

TUPED078

"With a year's supply of medication, I feel secure and in control of my health": experiences of multi-month dispensing models among migrant populations in Mozambique (january-April 2024)

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Background: In 2019, health authorities in Gaza Province, Mozambique, started a pilot program for 6 and 12 multi-month dispensing (MMD) of antiretroviral therapy (ART) in selected health facilities for migrant clients living with HIV. However, there is limited understanding of how these clients and the healthcare providers' perceive these dispensing models. We aimed to explore both groups' perceptions regarding the 6MMD and 12MMD ART models in Gaza Province, Mozambique.
Methods: We conducted a qualitative study to assess the implementation and perceived impact of 6MMD and 12MMD between February and April 2024. Data were collected through 44 semi-structured interviews with 25 migrant clients living with HIV and 19 healthcare providers across 11 health facilities that are implementing the MMD dispensing in Gaza Province. Thematic analysis was used to identify key facilitators, barriers, and outcomes of MMD. Data were coded and managed using NVIVO QSR International (version 13).
Results: Both 6MMD and 12MMD models were widely regarded as effective by clients and healthcare providers. Clients cited reduced transportation costs, fewer clinic visits, and better alignment with work schedules as key benefits, improving their adherence and retention in care. Healthcare providers reported reduced patient volume, enabling them to deliver more personalized care and manage other clinic responsibilities effectively. They also perceived that these models enabled clients to take their medication without missing out on access to care at the facilities. Critical facilitators included awareness campaigns, professional training, and the availability of ART supplies.
Challenges reported included: migrants often missed viral load testing due to travel or insufficient follow-up mechanisms; women faced limited integration of MMD with family planning and cervical cancer screening services; and some clients expressed concerns about extended intervals between clinical evaluations, highlighting the need for enhanced support systems.
Conclusions: The 6MMD and 12MMD models have shown the potential to improve HIV treatment access in high-mobility populations by reducing financial and logistical barriers while maintaining adherence.
Addressing challenges such as follow-up systems, service integration, and resource constraints (costs) plays a crucial role in maximizing the potential benefits of MMD. These findings provide valuable insights for scaling differentiated HIV care in similar high-burden settings of Mozambique.

TUPED079

Acceptability and experiences of adolescent girls and young women with genital sampling procedures in an HIV vaccine preparedness study in Uganda

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Background: Engaging Adolescent Girls and Young Women (AGYW) in trial design is key towards supporting product development tailored to their needs. Genital sample collection procedures essential for STI monitoring and immunological research may impact study adherence.
We explored AGYW's acceptability and experiences with genital sampling procedures in the Multi-site Adolescent Girls Young Women study (MAGY) in Uganda to understand acceptability and participation.
Methods: This qualitative study was conducted among AGYW who had undergone genital sampling with Softcup, Cytobrush, and vaginal swabs, and parents/guardians of AGYW living in fishing communities around Lake Victoria, Uganda.
30 AGYW,15 parents/guardians of AGYW were purposively selected for participation considering age, occupation, and residence. AGYW and parents/guardians were sensitized before collection on the types of samples needed,

and their importance to study goals. Genital sampling for AGYW was conducted at month 0 and every three months. Parent and AGYW in-depth interviews were conducted in Luganda after screening, at month 0 and month 6. Data were transcribed verbatim and thematically analyzed using Nvivo 14.

Results: Neither AGYW nor parents/guardians had prior knowledge or experience with the SoftCup, CytoBrush, or vaginal swabs.

AGYW found procedures acceptable though some reported discomfort with the size of the SoftCup, the vaginal speculum, and CytoBrush as well as mild abdominal pains or tickling. Perceived fear of the Cytobrush damaging the uterus was also reported by the AGYW. Female clinicians were preferred for sample collection. Self-sample collection was perceived to be uncomfortable.

Parents/Guardians highlighted the need for detailed explanations to address concerns about pain and tool size. They had mixed preferences on the clinician's gender. They recommended involving sexual partners, local, and religious leaders to foster community acceptance.

Conclusions: Genital sampling is generally acceptable among AGYW. Addressing procedural concerns, and preferences is key. Involving partners and key stakeholders might foster broader acceptance and trust.

TUPED080

Factors influencing adherence to daily oral PrEP during pregnancy and postpartum: qualitative findings from Malawi, South Africa, Uganda and Zimbabwe

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Background: Oral PrEP is recommended in pregnant and breastfeeding women (PBFW) at risk for HIV. However, data about peripartum use is limited. Through in-depth interviews with PBFW who initiated daily oral PrEP (DO-PrEP) in the IMPAACT 2009 study, we explored factors influencing DO-PrEP use.

Methods: In this multi-center clinical study, 350 PrEP-eligible pregnant women aged 16-24 years were enrolled between March and December 2022. All participants were offered daily oral TDF/FTC and followed through 26 weeks postpartum.

Among the 229 PBFW who initiated DO-PrEP, 20 antepartum and 20 postpartum women were purposively selected for an in-depth interview. Within each period, we interviewed 10 women with optimal (6-7 doses/week) and 10 with sub-optimal adherence (<6 doses/week) based on TDF/FTC drug levels in dried blood spots at two consecutive visits.

Interviewers asked women about facilitators and challenges to DO-PrEP use. Interview transcripts were thematically coded and analyzed, focusing on experiences with DO-PrEP during and immediately following pregnancy.

Results: In both ante- and postpartum groups, a strong desire to prevent HIV for self and baby was reported to promote consistent DO-PrEP use. Common facilitators of DO-PrEP use included dosing reminders, adherence counselling and routine dosing schedules. Concerns about side effects and male partner disapproval were stronger during pregnancy compared to postpartum, prompting inconsistent dosing and nondisclosure of DO-PrEP use until after delivery. Good experiences with DO-PrEP during pregnancy influenced a positive attitude
about its use during breastfeeding. Other pregnancy-related barriers to DO-PrEP use included labor and concomitant pregnancy symptoms/sickness, adding to the pill burden of routine pregnancy supplements. Overall, women described their experience with DO-PrEP use during breastfeeding as better compared to pregnancy.

Conclusions: PBFW receiving DO-PrEP were aware of HIV risk and motivated to protect themselves and their infants; however challenges unique to pregnancy including side effects to the baby, were reported. Tailor-made counselling is needed for peripartum DO-PrEP use.

TUPED081

Correlates of network- and non-network – based HIV testing strategies among female sex workers and men having sex with men in lower eastern, Kenya

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Background: Female sex workers (FSWs) and men who have sex with men (MSM) are disproportionately affected by HIV. Testing for HIIV is critical for accessing prevention and treatment services, yet the impact of testing strategies on linkage to services remains under studied.

This evaluation compared network-based and non-network-based HIV testing strategies to understand their correlates and influence on linkage to HIV prevention and treatment services among key populations in Lower Eastern Kenya.

Description: We conducted retrospective analysis of data from nine key population drop-in centers (DICEs) in Lower Eastern Kenya was conducted. Data from the last HIV

test between October 2023 and September 2024 was extracted, including testing strategies, test settings, HIV risk scores, test results, and linkage to prevention and treatment services.

Lessons learned: A total of 17,870 key population (KP) clients were tested, including 9,894 (55.4%) FSWs. The median age was 30 years (IQR: 25–37), with 43.5% aged 25–34. Most clients (88.6%) were tested using non-network-based strategies, and 94.7% were unaware of their HIV status. Among those tested, 93.5% had documented HIV risk scores, with 50.8% classified as medium risk. Testing primarily occurred in community settings (77.8%), and the overall test positivity rate was 1.2% (218 clients). Ninety percent of clients were linked to prevention services, with 40.1% linked to ARV-based prevention or treatment.

Network-based testing was more likely among MSM (AOR = 1.12, 95% CI: [1.02–1.25], p = 0.024), clients with very high risk scores (AOR = 2.56, 95% CI: [1.99–3.28], p < 0.001), and those testing HIV-positive (AOR = 8.21, 95% CI: [6.01–11.26], p < 0.001).

Repeat testers and those not linked to prevention services were less likely to use network-based strategies (AOR = 0.74, 95% CI: [0.70–0.79], p < 0.001; AOR = 0.33, 95% CI: [0.26–0.43], p < 0.001, respectively).

Conclusions/Next steps: Network-based testing was strongly associated with higher HIV positivity, very high risk scores, and improved linkage to ARV-based prevention and treatment, particularly among MSM. Tailored testing strategies are vital for effective HIV prevention and control.

TUPED082

Efficacy testing of a stigma reduction intervention clinical trial among urban and rural women with HIV

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Background: In Tanzania, HIV is a leading cause of death and an estimated 1,000,000 women are living with HIV (WLWH). Stigma is a barrier to testing, prevention, treatment, and well-being for WLWH, yet few evidence-based interventions exist to address it.

This study tested preliminary efficacy of a theoretically-based, culturally relevant, linguistically sensitive, sex-specific stigma-reduction intervention, Labda Siku Moja (Maybe Someday) through a pilot randomized clinical trial.

Methods: The stigma-reduction intervention consisted of five video stories comprised of personalized stigma coping messages acted by and relevant to Tanzanian WLWH, and guided by the Theory of Narrative Transportation. WLWH watched the videos in groups of 9 to 12 organized by age groups (18 to 24, and 25+). Motivational Interviewing was used as the mechanism of debriefing each of the five stories. To test preliminary efficacy and determine effect sizes of this intervention, a 2 (treatments) x 4 (time points [baseline, 30, 90, 180 days]) repeated-measures RCT was used. Participants were recruited from one urban and one rural health center.

Results: Of the 192 WLWH screened for study participation, 167 met enrollment criteria; 87 were randomized to the intervention and 80 to the control, stratified by age (18-24/25+). Retention was high; 154 (97.5%) completed the 30-day, 155 (98.1%) completed the 90-day and 152 (96.2%) completed the 180-day follow-up surveys.

From baseline through 180-days, participants in the intervention arm significantly reduced scores more than the control arm for overall stigma (p<.0001) and subscales: perceived (p=.001), anticipated (p<.0001),internalized (p<.0001), and disclosure related stigma (p<.0001).

There was a significant increase on coping self-efficacy (p=.0095), self-esteem (p=.0310), resilience (p=.0268) among women in the intervention arm more than the control arm over the same follow-up period.

Conclusions: These findings suggest that it is possible to mitigate the negative effects of stigma among WLWH. Further research is necessary to determine how to scale the intervention for widespread dissemination.

Similarly, as stigma experiences differ among men and women, additional research is also needed to develop and test a stigma reduction intervention for men living with HIV.

TUPED083

Group by time analysis of forming an explicit sexual agreement: results from a digital HIV serostatus neutral intervention trial with adult, cisgender male couples

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Background: Few HIV serostatus neutral interventions exist in the US that are efficacious, couples-based, and delivered digitally for adult, sexual minority male couples. LuvHub is a couples-based, digital HIV serostatus neutral intervention (DHI) that is currently being evaluated via a nation-wide, digital randomized controlled trial (RCT). LuvHub teaches couples essential skills, including forming an explicit sexual agreement.

Methods: We enrolled 389 eligible and consented adult, cisgender sexual minority male couples across the US to participate in a 16-month, digital RCT to assess the efficacy of LuvHub over time. Post baseline, couples were randomized to immediate intervention condition (G1) to use LuvHub for 16 months or 8-month delayed control condition (G2) to use LuvHub began for the last 8 months of the trial.

Assessments occurred every 4 months. Present analyses examined differences in forming an explicit sexual agreement (categorical outcomes) from baseline to month 4 between G1 and G2. Generalized estimating equation (GEE) mixed models were conducted to test for group (G), time (T), and group by time (GxT) interaction effects.

Results: At baseline, there were no significant differences in sex agreement formation between groups (p=0.07). At 4m, there were significant differences between groups (p<0.0001). For G1, all agreement categories increased while not having any agreement decreased to 4.5% and G2 remained about the same as baseline. GEE model showed significant GxT interactions for all sexual agreements compared to no agreement. G1 had 70% increase in odds of closed agreement relative to no agreement when compared to G2, and 2.1 increase in odds of open with rules agreement relative to no agreement compared to G2. For GxT, there were no group differences at baseline; at 4m, G1 had >3 fold increase in odds of closed agreement (p=0.0041), 2 fold increase in odds of open with no rules (p=0.0678), and 3.8 fold increase in odds of open with rules (p<0.0001), relative to no agreement, compared to G2.
Conclusions: Findings show potential promise of LuvHub for encouraging couples to form an explicit sexual agreement over time. Analyses of remaining assessment data, once available, are needed to reveal longitudinal trends in these outcomes.

Social, cultural, political, legal, environmental and structural determinants of health in different contexts

TUPED084

Impact of stigma and discrimination on HIV prevalence and cascade of care among female sex workers: a global systematic review and meta-analysis

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Background: Female sex workers (FSW) face an increased risk of HIV transmission due to risky sexual practices resulting from their work and economic constraints. HIV research and interventions have predominantly focused on individual-level risk behaviours and biomedical approaches. This global systematic review evaluated the impact of stigma and discrimination on HIV care cascade outcomes among FSW.
Methods: We systematically reviewed studies from MEDLINE, Embase, and PsycINFO databases published over 01/012010-25/03/2024 assessing associations between stigma or discrimination and HIV outcomes (HIV testing, HIV incident or prevalent status, ART use, ART adherence, or viral load suppression) among FSW. We extracted and pooled associations (adjusted estimates when available, otherwise unadjusted estimates) from the included studies using random-effects meta-analyses. We applied a multi-level approach as multiple estimates were available from some studies (e.g., associations with different stigma types). We conducted subgroup analyses for HIV-related and sex-work related stigma.
Results: Thirty-six studies including 35,634 participants from 24 countries (22 (92%) from low and middle-income countries with 13 (54%) from Africa) were analysed, contributing 104 associations between stigma or discrimination and HIV outcomes.
Overall, 34% of FSW reported experiencing stigma or discrimination; either ever (34%) or recent (28%). We found a positive association between stigma/discrimination and HIV positive status (pooled OR:1.10; 95%CI:1.00–1.21; I^2:49.6%, n=28 estimates) and a negative association with ever or recent HIV testing (pooled OR:0.75; 95%CI:0.58–0.96; I^2:80.2%, n=21 estimates). Stigma or discrimination showed no association with ART use, adherence, and viral load suppression.
In subgroup analyses, HIV-related stigma/discrimination was associated with lower HIV testing among FSW (OR:0.72; 95%CI:0.53–0.97; I^2:67.5%, n=7 estimates), whereas sex-work stigma showed no association (OR:0.85; 95%CI:0.64–1.13; I^2:81.5%, n=15 estimates).
Conclusions: Stigma and discrimination may increase the risk of HIV transmission and reduce HIV testing among FSW, but evidence suggesting an impact on other HIV care outcomes is insufficient. There is a need for tailored interventions focusing on stigma and discrimination to reduce structural barriers and inequalities in HIV care among FSW, with these being accompanied by political commitment and sex work friendly policies. Additional evidence is also needed on the causal pathways linking stigma and discrimination to HIV outcomes.

TUPED085

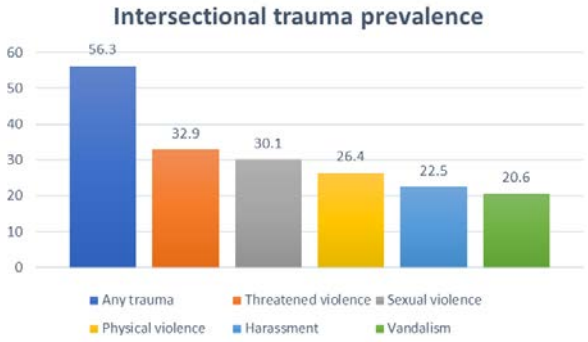
Intersectional trauma exposure, posttraumatic stress, and PrEP engagement among sexually minoritized cisgender men in the United States

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Background: Sexually minoritized men (SMM) in the United States (US) are disproportionately burdened by HIV, trauma exposure, and posttraumatic stress disorder (PTSD). Minimal research has examined how trauma shapes PrEP engagement, which remains suboptimal. We determined intersectional trauma and PTSD burden and assessed PTSD/PrEP engagement associations.
Methods: Using online, cross-sectional, nationwide data from HIV-negative and status-unknown participants (N=2144) in the American Men's Internet Survey (2022-2023), we calculated prevalence of intersectional trauma (harassment, vandalism, threatened violence, actual physical or sexual violence) and PTSD, and performed logistic and ordinal logistic regressions to assess intersectional trauma/PTSD associations and PTSD/PrEP engage-

ment associations. We used stratification to assess effect measure modification of PTSD/PrEP engagement associations by race.

Results: Mean age was 43 years; 70% of participants were non-Hispanic white (n=1501), with roughly 10% each of Black (n=213), Hispanic (n=205), and another race or multiracial participants (n=207). More than a third (n=741) reported current PrEP use. More than half (n=1206) endorsed ≥1 trauma, the most prevalent being threatened violence (Figure).



Roughly 7% (n=152) screened positive for PTSD. All traumatic events were positively associated with PTSD (p≤0.001). Among ever-PrEP users (n=960), PTSD was negatively associated with current PrEP use (OR=0.48, 95% CI=0.29-0.80). Among current PrEP users, PTSD was negatively associated with PrEP persistence (OR=0.55, 95% CI=0.31-0.99) but not adherence (OR=0.81, 95% CI=0.39-1.68). Stratified by race, PTSD was negatively associated with current PrEP use among Black (OR=0.17, 95% CI=0.04-0.72) and Hispanic ever-PrEP users (OR=0.23, 95% CI=0.05-1.10; p=0.066) only.

Conclusions: Trauma and PTSD are potential intervention targets that may optimize PrEP engagement and promote psychosocial wellness among SMM. PrEP programming that is both trauma-informed (i.e., creates safe, supportive, empowering environments that avoid re-traumatization) and trauma-focused (i.e., specifically addresses and aims to treat trauma's effects) is needed. As vulnerabilities may vary by race, tailoring and cultural adaptation may be warranted.

TUPED086

Risks and vulnerabilities among adolescents livings with visual disabilities enrolled in the DREAMS initiative in Monze and Mongu districts in Zambia

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Background: Adolescents with disabilities (AWD) in Zambia are at increased risk of HIV due to limited access to inclusive health services, pervasive stigma, and social barriers. While the Determined, Resilient, Empowered, AIDS-free, and Mentors (DREAMS) program has reduced HIV risk among adolescents, further assessment is needed to ensure it effectively meets the unique needs of those with disabilities. Ciheb-Zambia examined the specific risks and vulnerabilities faced by visually impaired AWD enrolled in DREAMS to identify opportunities for enhanced inclusivity and support

Methods: From October 2023 to September 2024, AWD presenting at DREAMS centers were screened for eligibility, risk, and vulnerability by trained mentors in Monze and Mongu districts. Mapping covered 9 communities, including schools, with collaboration from the Ministry of Education and community gatekeepers to reach adolescent girls and young women (AGYW). AWD underwent structured risk assessments, enrolling only AGYW identified with multiple risks. De-identified data were analyzed in R using descriptive and inferential statistics to assess risk factors and program outcomes.

Results: A total of 213 AGYW with visual impairments were screened for risks and vulnerabilities with 65 (31%) aged 10-14, 128 (60%) aged 15-19, and 20 (9%) aged 20-24 years-old. Of those screened, 98.5% (210/213) with multiple risk factors were enrolled in DREAMS. Over half (53%) reported irregular condom use, and 32% reported multiple sexual partners in the last year.

Additionally, 28% engaged in transactional sex. Experiences of violence were prevalent, with 24% reporting emotional or physical abuse or neglect and 13% reporting lifetime sexual violence. Substance use disorders were present in 18%, and 3% reported an STI diagnosis.

Furthermore, 14% were out of school, and 9% have been pregnant or were already mothers.

Conclusions: Our findings in two districts reveal complex vulnerabilities among visually impaired AGYW in the DREAMS program, with high rates of irregular condom use, transactional sex, multiple partners, and violence exposure underscoring critical gaps in support. The low STI diagnosis rate may reflect limited healthcare access rather than reduced exposure. These insights underscore

the urgent need for DREAMS to adopt more inclusive, disability-specific strategies to address the unique challenges faced by AWD.

TUPED087

Assessing health-related social needs among people living with HIV in the Bronx, New York

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Background: Health-related social needs (HRSN) such as housing instability and food insecurity pose significant barriers worldwide to HIV treatment adherence and viral suppression, which are key targets to limit disease transmission and progression among people living with HIV (PLWH).
To address these barriers valid assessment tools are necessary to first identify HRSN, particularly among PLWH in underserved communities, and then offer targeted support.
Methods: We convened an advisory panel including PLWH, providers and researchers to establish acceptability and content validity of a 9-item HRSN clinical tool designed for general clinical settings, to be adapted for HIV clinic implementation in the Bronx, New York.
The first 8 items identified recently experienced HRSN (housing instability, housing quality, hunger, economic insecurity, transportation access, healthcare affordability, caregiver support, legal services access). Item 9 captured interest in receiving help.
Next, we recruited PLWH from an HIV clinic to participate in cognitive interviews (CIs), probing for conceptual coverage and cognitive domains (item comprehension/interpretation, information retrieval, judgment, response process). We conducted 3 rounds of CIs (8-10 PLWH per round, n=28). We used analytic memos and data matrices to identify patterns across participants and items.
Results: The panel:
1. concluded that clinical implementation was acceptable and conveyed provider empathy, and
2. identified content gaps to subsequently address in CIs.
CI participants were 57% women, 79% diagnosed with HIV >10 years ago, and 79% reporting ≥1 HRSN. Mean age was 54 years.
We identified challenges to conceptual coverage (e.g., tool excluded need for 'home health care') and to cognitive domains:
1. unheeded temporality: disregarding varying recall periods (e.g., "past 2 months", "past 12 months");
2. conflation of referent groups: non-systematic inclusion of individual vs. household/family HRSN;
3. judgment and self-censorship:
a. internalizing personal responsibility rhetoric reduced help-seeking,
b. selectively reporting *prioritized* vs. *all* HRSNs;
4. limited response options: 'Yes' or 'No' may capture current HRSN, disregarding reality of chronic, intermittent or anticipated needs.
Conclusions: Findings led to significant revisions to the HRSN assessment tool for PLWH. As HRSN identification expands into clinical settings, tools designed for the general population may require significant revision to ensure validity if used with PLWH.

Community-engaged/participatory social science-based interventions

TUPED088

Moving beyond mere community engagement to community leadership by young women to prevent HIV and gender-based violence in Ngqushwa, South Africa: Ubomi Bethu (it's our lives) Programme

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Background: The Ubunye Foundation pushes boundaries focussing only on community-led programmes. Ubomi Bethu (It's our life) programme is designed, managed, evaluated and presented by young women from rural areas. These women, living with HIV, wanted to address young women (aged 10-24) who exchange sex for food/luxury items with 'umalabane' (sugar daddies) who are often school taxi drivers. Parents support the relationships since they bring food/resources into otherwise impoverished households. Yet, these women experience violence and GBV risking themselves to HIV and unplanned pregnancies.
Description: 150 young women learners in eight high schools volunteer as Youth HIV Ambassadors (YHAs) covering 3400 learners. YHAs are mentored in passing on accurate information on HIV prevention in informal chats with other learners. They link those needing immediate professional help to counsellors, teachers, police, nurses - local public sector employees trained to help young people. YHAs also refer those in relationships with umlambane to Life Skills groups. Here, they create alternative life plans with financial, training, psycho-social, and study support. A mobile app gives all people access to Ubomi Bethu resources, project feedback, local assistance, and supportive chat platform. YHAs now also have a bi-annual youth-led summit where young women and men talk and pledge on building happy healthy supportive relationships.
Lessons learned: Ubunye uses community-led M&E systems. YHAs and learners use participatory action M&E, allowing them to speak directly. They collate analyse, review and ultimately present data. They identify and measure their own indicators of success, progress and change.

Some indicators focus on young people's increased use of clinics, (up 52% in two years). Yet other indicators report on supportive conversations; outomes after advice on relationship challenges; links to professionals in times of crisis. Their findings show (his)tories of support given, impressions of courage, individual programme impact; images of extreme life challenges.

Conclusions/Next steps: Ubomi bethu shows community leadership working in HIV prevention. It is an alternative to Global North imposed methodologies that merely engage communities. It shows young women working together to change their futures in ways that are locally managed by them. HIV prevention is shown to be about rights, education, access to essential resources, not only health care.

TUPED089

Transforming care: integrating afrocentric principles, symbolism, and community-based research to address IPV and HIV among african, caribbean, and black women in Ontario Canada

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Background: African, Caribbean, and Black (ACB) women face unique and intersecting challenges when navigating intimate partner violence (IPV) and HIV. These challenges are shaped by systemic barriers such as anti-Black racism, colonization, and stigma which discourages vulnerability and help-seeking.

This study explores these intersections in the Greater Toronto Area (GTA) in Ontario, Canada, focusing on the lived experiences of ACB IPV survivors women and the systemic and cultural factors influencing their access to care. Drawing on Afrocentric theory, Black feminist thought, and the Intersectionality concept, the research seeks to advance culturally informed, community-driven solutions that foster healing and resilience.

Methods: The study employed a community-based research (CBR) approach to prioritize the voices of ACB women and engage stakeholders at every stage using a qualitative design and was conducted between May-Aug 2023. Participants included ACB women aged 18–64 who are IPV survivors with lived experiences of HIV, healthcare, and social service providers with expertise in IPV and HIV in ACB communities.

Recruitment was facilitated through convenience and snowball sampling using social media and community networks. Data collection involved six talking circles and 18 semi-structured interviews. Thematic analysis was applied to identify patterns and themes, while ethical protocols, including informed consent and confidentiality, were observed.

Results: Findings revealed pervasive systemic barriers, including stigma, fear of disclosure, and a lack of culturally relevant services. Participants expressed frustration with mainstream healthcare and social services that failed to address their unique needs and the intersectionality of IPV and HIV. The Strong Black Woman schema emerged as a significant barrier, perpetuating silence and isolation by stigmatizing vulnerability.

Conversely, protective factors such as spirituality, culturally informed therapy, and community support networks were identified as critical to resilience. The principles of Ujima collective work and responsibility were central to creating inclusive, culturally safe spaces that prioritized communal healing and empowerment.

Conclusions: The research underscores the need for culturally informed, community-driven approaches to support ACB women experiencing IPV and HIV. Afrocentric principles and CBR provide pathways for sustainable, inclusive care.

Future work should integrate these frameworks into policy and practice to foster systemic change, improve access to services, and promote holistic healing.

TUPED091

Community based viral load sample collection through community cadres is possible among vulnerable subpopulations with limited mobility: lessons learnt from Mwami Rural Hospital, Hurungwe, Zimbabwe

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Background: Viral load monitoring establishes whether a client has achieved viral load suppression. In rural areas in Mashonaland West health care workers at Mwami Rural Hospital identified long distances hinder access to viral load monitoring annually as expected.

When recipients of care are elderly or living with disabilities, access is limited. Recipients volume and clinical responsibilities provide challenges for healthcare professionals to dedicate time for outreach or household services.

Description: The health care workers, to enhance access to viral load monitoring, approached Community Health Agents (CHAs) and proposed to extend community viral load monitoring on the existing Differentiated Services Delivery of ART medicines conducted at community level and capacitated them through one-day sessions on collecting finger-prick dried blood samples for viral load monitoring. The community health agent visits the community and collects dried blood samples for the elderly and other vulnerable populations so that they do not miss out on viral load monitoring. Commcare was used to collect Client Satisfaction Sentiments (CSS) and referral data by the CHAs.

Lessons learned: Community cadres collecting viral load samples has proven to be effective and client-centered, ensuring no one is left behind in accessing care and treatment services. Over the 9-month period the program has managed to facilitate 185 viral load monitoring referrals for defaulters and elderly recipients of care ensuring 100 % clients have valid viral load results.
CSS data collected over the period has shown steady progression of valid viral loads reported by recipients of care from 88% Q2, 86% Q3 and 100% Q4. Identifying challenges and receiving training for sample collection and result delivery, community cadres demonstrate that local communities can lead the HIV response. This approach allows recipients to receive customized services, which motivates adherence to medication.
Conclusions/Next steps: Viewed as complex procedure requiring trained professionals, this novel practice offers a new, scalable model in similar settings. It highlights the potential for community involvement to enhance healthcare accessibility and improve health outcomes for people living with HIV. The practice addresses human resource shortages in the provision of healthcare services.

TUPED092

A community-engaged social media campaign addressing HIV-related stigma in Peru: results from the "DiME" campaign

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Background: Mitigating HIV-related stigma is crucial to improving outcomes for people living with HIV (PLWH) and reaching global HIV targets. We designed and implemented a community-engaged social marketing campaign to address HIV-related stigma among young people in Peru, and examined the feasibility of working with influencers to disseminate campaign content.
Methods: We conducted formative community-engaged research with young PLWH in Lima, Peru to identify key campaign messages and change targets. Based on findings, we developed social media content addressing common myths and stereotypes regarding HIV, encouraging empathy for PLWH, and normalizing conversations around testing, prevention and treatment. Content was reviewed and approved by a community advisory board.
Additionally, seven top Peruvian influencers (four lifestyle influencers, one physician, one reality television star, and one newscaster) were paid to create and post content from their accounts. 85 local (unpaid) micro-influencers were invited to disseminate content. Social media metrics were documented.
Results: The campaign occurred over three months in 2024. We created and posted 49 videos to campaign Instagram and TikTok accounts, yielding 1,666,250 views, 2,686 comments, and 72,200 likes. The campaign generated 1,767 Instagram followers and 11,275 TikTok followers, 53.6% of whom were in Peru. The five top posts created by the DiME marketing team received 143,462 views, 322 comments, and 9,583 likes, while the five top influencer posts had a total of 502,520 views, 277 comments, and 23,023 likes. 37 unpaid micro-influencers (43.5%) reposted content.
There was a positive correlation between influencer dissemination and content reach. We received 639 direct messages inquiring about HIV services, requesting HIV-related information, or sharing personal experiences (Graphic).



Conclusions: Social media is a powerful tool for disseminating anti-stigma messaging, and collaboration with influencers to disseminate content was feasible and effective in expanding reach. Analyses examining the content's and campaign's ability to reduce HIV-related stigma are ongoing.

TUPED093

Evaluating strategies for STI partner notification and treatment in adolescent populations in Cape Town, South Africa

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Background: Adolescents in sub-Saharan Africa face significant barriers to STI prevention and treatment, including limited education on curable STIs and cultural taboos around discussing sexual health. These challenges result in low rates of STI testing, treatment, and partner notification among this vulnerable population. With the aim to obtain insights to improve STI notification options and

communication strategies, thereby reducing STI transmission and improving sexual health outcomes, we conducted research to understand communication practices, barriers, and facilitators in young people.

Methods: This study used focus group discussions (FGDs) with Youth Community Advisory Board (YCAB) members in Cape Town, South Africa, as part of the FastPrEP implementation science project. Six FGDs, each with 8–10 participants, explored communication practices, barriers, and facilitators related to STI partner notification and treatment. A rapid thematic analysis, supported by Dedoose software, was conducted to identify actionable insights. Feedback was obtained from participants on existing partner notification intervention prototypes as well as recommendations for alternative intervention options to improve communication. The FGDs were audio-recorded and subsequently transcribed for qualitative analysis.

Results: Participants emphasized the need for discretion, autonomy, and strategies to reduce stigma in interventions focused on partner notification and STI communication. Participants suggested offering couples' STI/HIV testing framed as a relationship-strengthening option rather than solely STI-focused. Educational approaches such as brief videos and role-playing were appreciated for their engaging format but required a careful balance of relatability and seriousness.

Alternative STI notification slips are effective with clear information, QR codes, and a focus on love and joint testing. Insights also indicated that delivering testing kits with neutral packaging or pharmacy pick-up options was viewed as a practical, stigma-reducing solution that facilitates private, safe conversations about testing.

Conclusions: Tailored interventions addressing communication, stigma, and privacy concerns are essential for STI prevention among adolescents and young people (AYP), according to the expert opinion from YCAB members. Incorporating community-driven feedback into partner notification and treatment strategies can enhance their acceptability and engagement.

This research will be used to develop an intervention aiming to address the identified barriers and communication gaps, ultimately enhancing sexual health outcomes and reducing STI transmission among adolescents.

TUPED094

Leveraging media advocacy for HIV testing and treatment: insights from young key populations in Nigeria

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Background: In Nigeria, young key populations (KPs) living with HIV including LGBTQ+ individuals, people who use drugs, and sex workers are suffocated by layers of systemic stigma, media misrepresentation, and cultural invisibility fueled by the same-sex marriage prohibition act. These destructive narratives not only dehumanize but also isolate young KPs from life-saving HIV services, perpetuating cycles of fear and discrimination.

Recognizing the media's dual power to perpetuate harm or catalyze change, a strategy session funded by Y+ engaged young Key Populations (KP) living with/affected by HIV to address gaps in media representation and create actionable solutions for stigma reduction.

Description: The session engaged 15 young KP activists living with/affected by HIV aged 18-27 from diverse backgrounds over two days in Lagos State. The goal was to co-develop strategies for leveraging media to reshape public perceptions of young KPs living with HIV.

During this intensive session, participants dissected real-life examples of stigmatizing coverage, brainstormed approaches to amplify authentic KP narratives and foster allyship within the media industry, co-developed journalist training guides and ethical storytelling frameworks to promote accurate portrayals of young KPs living with HIV, and proposed innovative media campaign strategies tailored to highlight the lived experiences and resilience of young KPs living with/affected by HIV.

Lessons learned:

1. Value of KP-Led Insights: The session revealed the nuanced challenges young KPs face in media engagement, emphasizing the importance of community-led solutions.
2. Barriers to Change: Entrenched cultural biases and a lack of KP representation in decision-making roles within the media sector were identified as major hurdles.
3. Transformative Potential of Media: Thoughtfully crafted campaigns showcasing KP stories have the power to shift public attitudes, as evidenced by successful examples discussed during the session.

Conclusions/Next steps: Media advocacy, rooted in KP-led strategies, is essential for challenging stigma and fostering inclusivity. Recommendations from the session include scaling up young KP living with HIV involvement in media content creation, establishing partnerships with journalists for capacity-building, and launching nationwide campaigns to normalize KP narratives. This approach can drive systemic change, reduce stigma, and improve health outcomes for young KPs living with HIV.

TUPED095

Strengthening capacity of cooperatives for accelerating HIV impact reduction in Rwanda

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Background: To encourage People Living with HIV (PLHIV) to get involved in HIV prevention, care, and treatment as well as impact mitigation, Rwanda Network of People Living with HIV/AIDS (RRP+) was founded in 2003 and established 500 associations, 300 cooperatives, and 12 NGOs whose members are people living with or affected by HIV. Cooperatives provide financial resources, vocational training, and psychosocial counseling to PLHIV members, fostering resilience, reducing stigma, and promoting prevention and treatment awareness.

Description: From 2019 to 2022, RRP+ with the support of Rwanda Biomedical Center (RBC) and the United Nations Entity for Gender Equality and the Empowerment of Women (UNWOMEN), and Rwanda Cooperative Agency (RCA), 138 cooperatives benefited from financial and capacity building support to enhance their income generating activities as a way to promote independence and social economic inclusion.
RCA trained them on cooperative management and governance. 67% female and 33% male benefited doing small businesses, animal breeding, handicrafts, and agriculture, which help them to share experiences, enhance community education and create safe spaces.
Lessons learned: The members of the supported cooperatives have shown changes benefited from the cooperative income generating activities by exchanging information on HIV status and coping strategies to the community on HIV that they also have transformational potential in decreasing the negative effects of HIV.
The diverse range of income within PLHIV demonstrates the power of community-led approaches; they improved life condition as well as nutrition on 58%, school education facilitation of their kids on 59%, health insurance on 81% and other needs on 54%, through their generated income.
Also, 99% of members in our cooperative reached viral load suppression, which was partly attributable to routine health education during their activities. They have shown that working together in organizations can be an effective way of meeting HIV-related needs through resource sharing, knowledge sharing and creating an enabling environment.
Conclusions/Next steps: It can be concluded that establishing and running PLHIV cooperatives contribute to their well-being and social and economic situation.
RRP+ plans to continue educating and training cooperative members in order to encourage more cooperatives. It will focus efforts on building cooperatives for youth and engaging with other partners.

TUPED096

"I'm not ready to go back to the clinic": a photovoice study exploring the perceptions and apprehension of ALHIV to transition to adult care at a supportive transition facility

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Background: In South Africa, adolescents living with HIV (ALHIV) between the ages of 10-19 years make up approximately 4.2% (320,000) of people living with HIV. As they mature, ALHIV are expected to transition to adult care, where they have to assume greater responsibility for managing their condition and care pathway.
The aim of this research was to explore the experiences and needs of ALHIV with respect to the transition to adult HIV care.
Methods: We used the participatory action research method, photovoice methodology, to explore the transition experiences of ALHIV on ART who were on ART at an NGO-supported primary health care facility providing care in the form of youth clubs prioritizing peer support and individualized care.
Participants for this study were recruited from a public primary healthcare facility in an urban community. Adolescent participants (N=24) were given camera phones and instructed to take pictures how they feel about adult services and to describe their experience of living with HIV. Data was collected from the pictures and the focus group discussions around their chosen pictures. Audio data was digitally recorded and transcribed verbatim and subjected to thematic analysis using Atlas.Ti version 24.
Results: Five themes emerged from the analysis, namely, "'feelings' about transitioning to adult care", "self-management", "challenges to adherence", "psychosocial support", and "adolescent-friendly services: filling the gap".
The results of this study highlighted how the participants received unfavorable care in local clinics prior to joining the youth clubs. The clubs fostered resilience, adherence, and psychological well-being through creating a safe, supportive space. Within group sessions, the participants developed trusted relationships, practical experiences to remain adherent, confidence, and independence.
Conclusions: The findings of this study highlight the importance of holistic care for ALHIV, wherein peer support and guidance, individualized care to support adherence, and psychosocial support are prioritized.
Therefore, we recommend the development of similar services as it will ensure that adolescents are equipped with the necessary skills to remain in care post-transition and empower them with the confidence to maintain their overall well-being into adulthood.

TUPED097

Advancing cervical cancer literacy for WLHIV: Case based evaluation of a community led advocacy and literacy tool

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Background: In 2018, approximately 63% of women with cervical cancer were HIV positive, with 53% of those cases attributable to HIV in South Africa. HPV can lead to precancerous lesions and eventually cervical cancer. Cervical cancer (CC) can be prevented through Human Papilloma Virus (HPV) vaccination, screening and treatment of precancerous lesions.
Limited knowledge on the above subject for women living with HIV (WLHIV) may impede efforts to prevent cervical cancer in this population.
Description: We conducted an online survey with 210 WLHIV in September 2024 to assess WLHIV HPV, Pap smear (PS) and CC literacy levels and documented the results. The following month, we disseminated an online literacy

booklet as a tool to enhance their literacy levels, intending to create demand for CC screening and strengthen their advocacy efforts for HPV vaccination.
Finally, we conducted a case based evaluation and post-implementation review to assess the impact of the intervention in improving their literacy levels and in creating demand for CC and HPV screening services.
Out of the 210 WLHIV, only 47 % knew that HPV may eventually cause CC, 43% were aware that they can access or request a pap smear at local clinics, 37% ever accessed pap smear since their HIV diagnosis. In December 2024, we conducted a post intervention evaluation and discovered that their HPV, PS benefits and CC literacy improved to 91%, 100% were aware they have a right to request pap smear, 86% went to the clinic to do a pap smear and out of this number 14% had abnormal pap smear and were referred for further investigations.
Lessons learned: We have learned that lack of urgency or delayed actions and inadequate cervical cancer screening and prevention opportunities for women living with HIV will hinder efforts to eliminate cervical cancer and the reduction of HIV-related death. Communities have a power to change their environment and bring change.
Conclusions/Next steps: The program demonstrated a missed opportunity, and that the rights of WLHIV are neglected. We will disseminate the tool to ensure it reaches more WLHIV, introduce it to the government. We are hoping to see it integrated in HIV services.

TUPED098

A peer support approach to client management is not inferior to traditional case management: a study among young persons living with HIV in Nigeria

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Background: Peer supporters have effectively provided psychosocial support to young persons living with HIV (YLHIV), but this has not been well documented in Southern Nigeria. In 2023, the PEPFAR/USAID-funded ECEWS ACE-5 project trained and integrated peer supporters into clinical teams to support the management of YLHIV.
This study compared HIV treatment outcomes between YLHIV managed by peer supporters and those managed by traditional case managers in Southern Nigeria.
Methods: This retrospective cohort study analysed data from electronic medical records of YLHIV aged 15-24 years receiving antiretroviral therapy (ART) as of September 2023 at 24 health facilities in Akwa Ibom and Cross River States. These facilities implemented both traditional and peer-based case management for YLHIV.
Data extracted included age (15-19 years, 20-24 years), sex, case manager type (peer supporter or traditional case manager), duration on ART, ART status, and viral load (VL) results with dates, as of September 2024. In the peer-based approach, YLHIV were randomly assigned to peer-supporters, to a maximum of 150 YLHIV per peer-supporter, with the remaining YLHIV assigned to traditional case managers.
Retention was determined by "active" ART status as of September 2024), while viral suppression was categorised into undetectable (<50 copies/ml), and suppressed (51-1000 copies/ml). Chi-square was used to compare retention and viral suppression as of September 2024 between clients managed by traditional case management (YLHIV assigned to case managers who also managed adults) and those managed via the peer-based approach between September 2023 and September 2024.
Results: A total of 4,979 YLHIV were included: 79.0% (3,932) were female, 75.7% (3,768) were aged 20-24 years, 23.4% (1,169) were managed by peer supporters, with a median duration on ART of 4.1 years (IQR=2.8-4.9).
Retention was comparable between YLHIV managed by peer supporters and those managed by traditional case managers (93.4% (1092/1169, vs 94.9% [3617/3810]; p=0.411, respectively).
Undetectable viremia was 88.5% (969/1095) among those managed by peer supporters compared to 93.6% (3,408/3,640) and those managed by traditional case managers (p<0.001), while suppressed VL was 96.9% (1,061/1095) vs 98.9% (3,599/3,640) (p<0.001), respectively.
Conclusions: Peer-based approaches are comparable in clinical outcomes to traditional case management and offer additional psychosocial support advantages for YLHIV.

Key populations and other vulnerable populations: Behavioural, social, cultural, structural and multilevel issues, contexts and interventions

TUPED100

Factors associated with PrEP awareness and demand amongst migrants in Europe

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Background: The ECDC reported data on migrant PrEP uptake is scarce and that the medication remains inaccessible for undocumented migrants, despite finding that migrants accounted for 48% of all new HIV diagnoses in Europe in 2022. We sought to understand PrEP awareness and demand rates amongst migrants.
Methods: Between October 2024 – January 2025 we conducted a PrEP awareness and demand study amongst migrants in 14 European countries (Belgium, Cyprus, Finland, France, Germany, Greece, Malta, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, UK). Study variables were collected through peer-led outreach in a community-based survey of all participants.
Results: Preliminary analysis of responses from 439 migrants (average age of 34 years, 41% male) shows 33% reported asylum seeker migration status, 20% reported holding a visa and 8% reported refugee status.
Substantially higher levels reported knowing their own HIV status as compared to their partner(s)' (75% aware of their status versus 48% aware of partner(s)'s). Roughly similar levels reported having ever discussed PrEP with a healthcare provider or community worker (28%) as reported an accurate understanding of PrEP (29%), as assessed by correctly answering follow-up questions describing the medication.
Despite condoms being the most reported HIV prevention method amongst our sample (reported by 33%, n=145 of sample), the most commonly reported risk factor (n=100) was condomless sex with partner(s) with unknown HIV status in the past year. The most common barrier to PrEP access (n=85) was lack of knowledge about where to get it and the most common reason (n=60) to not use PrEP was lack of knowledge about PrEP. Though only 10% reported current PrEP usage, 48% of our sample indicated they would use PrEP if offered.
Conclusions: PrEP uptake and awareness rates are low amongst migrants in Europe. Community-led, culturally-sensitive PrEP messaging is needed to increase HIV prevention method knowledge and linkage to PrEP services amongst migrants.

TUPED103

Prioritization of holistic care by pregnant women and mothers of infants when considering HIV research engagement

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Background: The ethical principle of respect for persons requires that investigators design research that is responsive to participants' preferences and concerns. This is especially important when engaging vulnerable populations such as mothers of infants and pregnant women living with HIV (MIPWLHIV).
This qualitative study was designed to characterize the understanding and prioritization of holistic care by MIPWLHIV when considering HIV research engagement.
Methods: This qualitative study was conducted within the Academic Model Providing Access to Healthcare in Eldoret, Kenya. We performed 45 semi-structured interviews between January and September 2024.
Interviews were conducted with 30 MIPWLHIV and 15 mothers without HIV who were actively or recently participating in research with their infants. Interviews were audio-recorded, transcribed, translated, and analyzed by multiple coders using a priori coding, constant comparison, axial coding, and triangulation.
Results: Holistic care emerged as a major factor facilitating longitudinal research participation. Dimensions of holistic care that motivated participants to remain engaged included observation of their child's health and development, increased access to referrals and healthcare, reimbursement, and education about topics including parenting, living with HIV, preventing vertical transmission, and their child's health.
The participants often viewed contact and visits with the research team as opportunities for positive interactions without stigma where MIPWLHIV reported feeling cared for, free to ask questions, accepted, and empowered.
Participants identified ways investigators engage MIPWLHIV that promote respect for participants and accommodate their desire for holistic care. These include the return and explanation of all tests results, dynamic reimbursement based on the burden of participation, providing a supportive visit environment, checking on participants between visits, and offering educational resources, re-

ferrals, and guidance when needed. Participants also reported concerns surrounding how they and their children navigate the potential loss of support when their research participation ends. For this reason, they emphasized the need for clear communication about the ongoing relationship between research and participants after the study period.

Conclusions: Holistic engagement and understanding of the factors affecting participation enable researchers to honor participants' dignity and prevent harm while uplifting MIPWLHIV and their children in their health journeys.

TUPED104

The perception of HIV pre-exposure prophylaxis amongst sex workers in Buea, Cameroon

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Background: Pre-exposure prophylaxis or "PrEP" is the use of antiretroviral medication by HIV negative people to reduce the risk of HIV acquisition. Despite its proven efficacy, the uptake of PrEP among sex workers in Cameroon remains low, hindered by various factors including lack of awareness, biased attitude, stigma, and limited access to healthcare services.

The aim of this research is to assess the knowledge, attitude, and perceptions of sex workers on HIV pre-exposure prophylaxis for HIV prevention in Buea, Cameroon.

Methods: A cross-sectional community-based study was conducted on sex workers in Buea from September 2024 to October 2024 using multistage sampling. A structured questionnaire was used for data collection. A scoring method was used and participants who scored above average were classified as having good knowledge, attitude, and perception.

Multivariate logistic regression was used to determine factors associated with the uptake of PrEP with a 95% confidence interval in the final model.

Results: All sex workers were female with 20% having no formal education, 27.3% earned below 50,000frs, 22.7% stayed in rural areas and relocated as a result of the crisis. 94% had a good knowledge, attitude, and perception of PrEP. Despite the huge percentage, 8.7% were not currently on PrEP due to stigma, 66.7% was due to unavailability, 71.3% have never been offered PrEP by a health provider while 76.7% have never used PrEP. This was because, 24.7% were afraid of the side effects while 6.7% did not trust it. When asked what will encourage their use of PrEP, 28.7% said free access, 35% said easy availability, 20.7% said more information about PrEP while 6.7% said fewer side effects.

Multivariate analysis revealed the following factors were associated with the knowledge, attitude and perception of PrEP. Sex workers who had primary (AOR=0.012 95%CI: 0.000-0.800) and secondary education (AOR=0.017 95%CI:0.000-0.677) respectively, participants with poor attitude towards PrEP(AOR=55.833 95% CI: 3.432- 908.230).

Conclusions: While there is a generally high level of knowledge, attitude and perception toward PrEP, economic, accessibility and availability, challenges remain barriers. Therefore, making PrEP free, available and accessible to sex workers will increase their usage.

TUPED107

Acceptability of telehealth for PrEP care among Latine sexual minority men

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Background: Latine sexual minority men (LSMM) are disproportionally impacted by HIV in the United States and are experiencing increasing incidence rates. Despite the elevated risk among LSMM, pre-exposure prophylaxis (PrEP) uptake has remained low. LSMM face unique multilevel barriers to access PrEP, telehealth has been shown to be an effective strategy for PrEP implementation, but whether this modality is of interest and acceptable to LSMM remains unclear.

Methods: We conducted a mixed-methods study during 2023-2024 to assess interest in and acceptability of telehealth for PrEP among LSMM in New York City, in collaboration with three community-based organizations (CBO) that provide HIV prevention services. CBO clients were recruited to an online cross-sectional survey assessing experience with, interest in, and acceptability of telehealth. Bivariate tests were conducted to identify factors associated with telehealth interest and acceptability. We conducted qualitative interviews with LSMM referred by CBOs to telehealth (n=14) or in-office (n=10) PrEP care; transcripts were analyzed thematically to identify social conditions shaping preference for telehealth.

Results: Among 145 LSMM who completed the survey, median age was 29 years, 76% (n=111) were immigrants, and 73% (n=106) had health insurance. While most (80%, n=117) had no previous telehealth PrEP experience, a majority 59% (n=69) endorsed interest in this modality. Common motivations for using telehealth included saving time (68%), convenience of not traveling to appointment (58%), and feeling it was more private than a provider's office (32%).

Qualitative themes that emerged among participants with telehealth experience included saving time required for in person care, having flexibility to be at work or home, and feeling comfortable talking about sexual health on video. Participants who chose in-office care felt that this

modality provided them with a more personal connection to their provider, and the opportunity to care for other health concerns.

Conclusions: Among LSMM clients of CBOs in NYC, interest and acceptability of telehealth was high, driven by a desire for flexibility and ease of access. However, some LSMM preferred in-office care, valuing connectedness with their providers over convenience. Telehealth-based PrEP delivery can meet the needs of LSMM and should be offered as a care option to this population.

TUPED108

"This is about someone's life; everyone is responsible for their own life": views on research consent among adolescents and guardians within Uganda's Rakai community cohort study

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Background: Most countries allow minors (<18years) to consent for some sexual and reproductive healthcare, but many require parent/guardian (hereafter guardian) permission to participate in research. Guardian permission is an important barrier to adolescent inclusion in biomedical prevention research on sensitive topics like HIV and sexual and reproductive health (SRH), as it is a disclosure risk for sensitive information to guardians.

Globally, adolescents as young as 14 demonstrate the cognitive capacity to consent, yet sociocultural perspectives on decision making may differ. Thus, our analysis examined adolescent and guardian perspectives on decision-making for adolescent research participation.

Methods: Adolescents were recruited from the Rakai Community Cohort Study in Uganda. Participants > 18 years consented, < 18 years assented with guardian permission. A systematic decision-making analysis was conducted using semi-structured interviews from 80 adolescents (early (10-14yrs), n=40; middle (15-17yrs), n=20; and late (18-19yrs), n=20) with guardians (n=24) completing in-depth interviews.

Results: Most adolescents reported making their own decisions to participate in research. This increased by age (early adolescents 18/40; middle 13/20; older 14/20). As a 16-year-old girl explained: "because this is about someone's life, everyone is responsible for their own life,".

Many also reported that participation in research was their guardian's decision (early 11/40; middle 6/20; older 6/20), "because [parents] have nurtured them up to where they are, and paid school fees" (14-year-old girl).

Among early adolescents, a subset (8/40) reported that the decision was made jointly: "Adolescents should seek parent's advice…because parents are more experienced than an adolescent who…may not be aware of the benefits and risks associated with participating in the study," said a 15-year-old girl.

Over half of guardians of early (n=5/10), middle (n=4/8) and late adolescents (n=5/6) believed it was the adolescents' decision: "because they tend to get engaged in certain practices without our knowledge, more especially having sex" (36 years, woman).

Conclusions: Most adolescents and guardians agreed that the decision to participate in research should be made by the adolescent. Findings underscore the importance of developing consent policies that prioritize adolescent autonomy while maintaining appropriate safeguards, ensuring inclusion of adolescents in biomedical trials and advancing HIV prevention efforts.

Key populations and other vulnerable populations: Behavioural, social, cultural, structural and multilevel issues, contexts and interventions

TUPED101

Female sex worker preferences for HIV pre-exposure prophylaxis delivery in Uganda: a discrete choice experiment

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Background: Cisgender female sex workers (FSWs) in sub-Saharan Africa have a high risk of HIV acquisition, highlighting the need for innovative approaches to expand coverage of evidence-based HIV prevention methods, including oral pre-exposure prophylaxis (PrEP). Our study aimed to identify FSWs' preferences for a PrEP delivery model with structured choices for delivery location, services offered, and adherence support.

Methods: We conducted a discrete choice experiment (DCE) among cisgender FSWs ≥18 years recruited from the Most At-Risk Population Initiative (MARPI) clinic in Kampala, Uganda, between October and November 2023. FSWs were recruited using consecutive sampling. To determine the most effective PrEP delivery method for FSWs, we created eight choice sets, each with three alternative combinations of PrEP service attributes and an opt-out using a D-efficient experimental design.

Participants were presented with three alternatives, plus an opt-out (no model selected), and asked to make selections based on four distinct attributes: the PrEP provider, place of delivery, delivery channel, and support services. We analyzed FSW preferences and attribute trade-offs

using a panel data mixed model and identified the preferred PrEP delivery model using the highest median utility score.

Results: Overall, 203 participants completed the DCE. The median age was 24 years (interquartile range [IQR] 20-32). Most FSWs preferred receiving PrEP from a healthcare worker at the clinic with short message service (SMS) reminders for adherence support (median utility score 0.87; interquartile range [IQR] 0.82, 0.94). This preference remained consistent across all age groups, with a median utility score of 0.88 for ages 15-19, 0.87 for ages 20-24, and 0.85 for ages ≥25.

Conclusions: FSWs preferred to receive PrEP care directly from providers at healthcare facilities. They highlighted the need for additional support, such as SMS reminders, to improve adherence and prevent HIV acquisition.

If implemented, this preferred model could increase prevention coverage and inform future approaches to delivering PrEP through the Uganda National PrEP Program.

TUPED102

Advancing HIV care for blind and deaf women in Kampala District, Uganda: lessons from a community-centred, gender-responsive approach

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Background: Blind and deaf women in Kampala, Uganda, face significant challenges in accessing HIV prevention, treatment, and care services due to the intersecting impacts of disability, stigma, and gender inequality.

This project aimed to design, implement, and evaluate a community-centred, gender-responsive model to address these barriers and improve health outcomes for this marginalized group.

Description: The programme was conducted over 18 months in Kampala District, integrating HIV services with accessible tools such as Braille and sign language resources, peer-led support groups, and tailored mental health interventions.

A participatory approach was adopted, involving affected women, local organizations, and healthcare providers in co-developing interventions. Key activities included mobile clinics, community-led awareness campaigns, economic empowerment initiatives, and training sessions for healthcare workers on disability inclusion. The target population included blind and deaf women aged 18-45 living with or at high risk of HIV.

Lessons learned: The programme achieved a 48% increase in HIV testing and a 32% improvement in treatment adherence among participants. Peer-led initiatives and economic empowerment activities were pivotal in fostering trust and increasing engagement.

However, challenges such as limited transportation options and caregiver stigma highlighted the need for sustained support. The participatory approach ensured interventions were well-tailored to the needs of the community, underscoring the value of inclusive practices in addressing intersectional vulnerabilities.

Conclusions/Next steps: This project demonstrates the effectiveness of community-centred, gender-responsive HIV care models in Kampala. Scaling these initiatives, addressing structural challenges, and leveraging technology for accessibility will be key to sustaining progress. These lessons provide a blueprint for advancing equitable HIV care for marginalized populations in Uganda and beyond.

TUPED105

Using coordinated care mechanisms to improve treatment outcomes for hidden and hard-to-reach sex workers in Marsabit, Kenya

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Background: Bar Hostess Empowerment and Support Programme (BHESP) has been implementing HIV prevention and care interventions tailored to female sex workers in Kenya's arid and semi-arid lands (ASAL) since 2021. Hidden and hard-to-reach populations, such as Muslim and migrant sex workers, face barriers to accessing care due to cultural, religious, and geographic challenges. In November 2023, BHESP adopted a Person-Centred Care (PCC) approach to address these barriers and strengthen coordinated care mechanisms aimed at improving HIV treatment outcomes for these marginalized groups.

Description: Between November 2023 and January 2024, BHESP reached 614 clients through interventions targeting both those living with HIV to support retention in care and those vulnerable to HIV acquisition. The approach leveraged healthcare providers and peer navigators to foster strong client-provider relationships while ensuring cultural and religious sensitivity in care delivery.

Empowerment sessions integrated into community engagements provided education, emotional support, and socioeconomic and mental health support. These sessions were held at hotspots accessible to Muslim and migrant sex workers. A coordinated care mechanism involving healthcare providers, peer navigators, and community leaders facilitated continuous follow-up, adherence support, and tailored referrals. Exit interviews were conducted to assess the acceptability and impact of the interventions.

Lessons learned: Exit interviews with 216 female sex workers revealed that 179 (82.9%) preferred care that was culturally sensitive and allowed for their active involvement in health decisions. The number of hidden sex workers accessing services increased by 37%, with clients reporting improved trust and satisfaction. Coordinated care enabled early identification of clinical challenges, such as a suspected treatment failure in a Muslim sex worker, who achieved viral suppression by February 2024 following intensive adherence support

Conclusions/Next steps: Coordinated care mechanisms significantly improved access to HIV care for hidden and hard-to-reach sex workers in Marsabit. These interventions, addressing cultural and religious dynamics, empowered clients to take responsibility for their health.

BHESP recommends scaling up coordinated care models for all key populations in ASAL regions to achieve equitable and sustainable health outcomes.

TUPED106

Lessons learned from deploying the PrEP Uganda mobile application for HIV prevention

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Background: Digital health innovations are transforming HIV prevention, particularly in resource-limited settings like Uganda, where structural barriers, stigma, and non-adherence hinder pre-exposure prophylaxis (PrEP) uptake and retention. The PrEP Uganda app, developed under the USAID Social and Behavior Change Activity (2020–2024), aimed to address these barriers through an integrated digital platform. The app was designed to improve PrEP access, adherence, and education, targeting individuals at high risk of HIV infection, including key populations such as men who have sex with men (MSM) and female sex workers (FSWs).
Description: The PrEP Uganda app combined a PrEP site locator, live chat with healthcare providers, medication reminders, and multimedia educational content. The app was accessible via Google Play for Android devices and supported by robust backend infrastructure. It featured offline geolocation to over 290 PrEP service sites across Uganda, confidential live chat capabilities, and customizable medication reminders. Educational resources included videos, infographics, and interactive content addressing HIV prevention myths and adherence strategies. Between 2022 and 2024, the app was downloaded 1,128 times, with 1,110 active monthly users. User demographics highlighted high adoption among younger populations and urban regions like Kampala and Masaka.
Lessons learned: The app demonstrated its ability to bridge critical gaps in HIV prevention. The PrEP site locator enabled equitable access to services, while the live chat feature reduced stigma and provided confidential support, facilitating 2,098 interactions with healthcare providers. Customizable reminders improved adherence for 72.3% of users who enabled this feature, and multimedia content boosted engagement, with 76% of users reporting increased confidence in managing PrEP. However, challenges included limited adoption in rural areas due to low smartphone penetration and internet connectivity, as well as a lack of local language support.
Conclusions/Next steps: The PrEP Uganda app highlights the transformative potential of digital health tools in HIV prevention. Iterative improvements, such as expanding offline functionality and incorporating local languages, are needed to enhance inclusivity. The app serves as a scalable model for leveraging mobile technology to address HIV prevention barriers in resource-limited settings, with significant implications for broader global health strategies.

Mental health and well-being interventions, programmes and models

TUPED109

The impact of COVID-19 changes and disruptions on generalized anxiety disorder among young adults living with HIV (YLHIV) in Uganda

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Background: The COVID-19 pandemic has posed unique mental health challenges, particularly for young adults living with HIV (YALHIV) in low-resource settings like Uganda. This population already faces compounded vulnerabilities due to stigma, limited resources, and chronic illness. Using the Social Determinants of Health framework, this study investigates the association between COVID-19-related disruptions and generalized anxiety disorder (GAD) levels among YALHIV.
Methods: Data were drawn from 500 YALHIV (aged 19–25) participating in the Suubi+Adherence R2 COVID-19 Supplement. Anxiety was assessed using the GAD-7 questionnaire, while COVID-19-related disruptions were measured via an 8-item Coronavirus Impact Scale. Hierarchical logistic regression and multivariate linear regression were employed to analyze the relationships between specific disruptions and anxiety levels, controlling for key demographic variables and intervention group assignment.
Results: Severe disruptions in routines and family stress were strongly associated with increased GAD levels ($p < 0.01$). Female participants showed higher susceptibility to GAD compared to males. Additional contributors to anxiety included financial instability, stress due to the pandemic, and reduced access to mental health services. Sensitivity analyses confirmed these findings, emphasizing the significance of routine and familial stability in mitigating anxiety.
Conclusions: This study highlights the exacerbation of anxiety among YALHIV due to pandemic-induced disruptions, underscoring the need for tailored interventions. Strategies to stabilize routines, support family dynamics, and ensure mental health service accessibility could mitigate anxiety impacts during future crises. These findings are pivotal for designing resilient mental health interventions in similar low-resource contexts.

TUPED110

Mental health integration in routine service delivery to Adolescent Girls and Young Women (AGYW) in Uganda

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Background: Globally, 14% of 10-19-year-olds experience a mental disorder, a global burden of disease in this age group. Anxiety, depression, substance use disorders, post-traumatic stress disorder and psychotic illness are commonly associated with decreased testing for HIV, reduced likelihood of initiating ART & retention care. Worldwide prevalence of child and adolescent mental disorders of approximately 20% and access to mental health services is hindered by limited knowledge and awareness on mental health plus inadequate availability to such services. UNAIDS and WHO emphasize the need for mental health assessment, diagnosis and psychotherapy integration in HIV prevention and treatment services. HIV prevalence among Ugandan AGYW aged 10–24 years is four times higher than in their male counterparts while depressive disorders are 22.2% and 21.2% in children and adults respectively. PEPFAR Uganda, integrated mental health services into the DREAMS program for adolescent girls and young women 10-24 years of age in 2022.
Description: The program adopted the WHO self-reporting questionnaire (SRQ20) as screening tool for anxiety and depression. Experienced peers in the program and social workers were trained in mental health psycho education, screening, and psychotherapy to support the roll out. An individual with a total score of 6 and above is deemed to have anxiety and depression and any report of having thought of ending your life is addressed immediately. The assessments are done every six months as part of the DREAMS program in the country.
Lessons learned: In the period of 18 months since program inception on the DREAMS program 270,824 AGYW have been assessed of which 9.6% were found to have symptoms of anxiety and depression, 3.9% of these has suicidal tendencies and 1% were at risk of alcohol and substance abuse. Anxiety and depression are mainly experienced by AGYW above 14 years and 92% of the AGYW that received psychotherapy interventions had symptoms address.
Conclusions/Next steps: Longitudinal tracking of individual to monitor anxiety and depression status change for AGYW on the program is being done to monitor any possible relapses and new cases that previously showed no symptoms. Expand mental health services to Adolescent Boys and Young Men met though the program.

Gender, sexuality and sexual cultures: Meanings, identities, norms and interventions

TUPED111

Assessing the state of peer-reviewed published HIV research concerning sexual minority women globally: a scoping review

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Background: Sexual minority women (SMW) face unique and exacerbated HIV risks compared to their heterosexual counterparts. However, to date, no systematic methods have been utilized to assess the breadth of current knowledge on the topic.
Therefore, to assess the current landscape of relevant literature, we conducted a scoping review of studies published in English before May 2023 reporting HIV-related outcomes among SMW.
Methods: Following PRISMA-ScR guidelines, we conducted a scoping review of peer-reviewed health literature on sexual minority women and HIV. We searched PubMed (PubMed.gov), Embase (Elsevier), PsycInfo (EBSCO), Sociological Abstracts (ProQuest), and CINAHL (EBSCO).
Eligibility criteria included studies published in English containing disaggregated data on SMW and reported any findings related to HIV and conceptualized by the study authors as in the context of HIV. Findings were summarized using systematic narrative synthesis.
Results: Our search identified 7,615 deduplicated studies; 187 met eligibility requirements. Most studies were conducted in the US (n=122; 65%) and utilized quantitative methods (n=154; 82%), most commonly cross-sectional (n=139; 74%), using survey data (n=150; 80%), and obtained via convenience sampling (n=114; 61%).
Overwhelmingly, studies did not utilize community-engaged methods (n=173; 93%). Publication numbers show an upward trend over time. Forty-eight studies (26%) focused exclusively on SMW. Inclusion of demographic data on SMW (sub)samples varied; about half of studies reported on age (n=99; 53%) and race (n=97; 52%); about two thirds reported on sexual orientation (n=127; 68%).
The included studies covered a range of HIV-related outcomes including: sexual risk behaviors (n=110; 59%), substance use (n=78, 42%), sexually transmitted infections (n=55, 29%), healthcare access and service utilization (n=38, 20%), intimate partner violence (n=28, 15%), mental health (n=27, 14%), stigma (n=18, 10%), and incarceration (n=15, 8%).

Conclusions: To our knowledge, this is the first review to systematically identify and synthesize scientific literature regarding the state of HIV research inclusive of SMW. Our review offers insights on a range of key methodological and topical gaps in the current literature related to SMW and HIV, which can inform future research and practice efforts to improve HIV-related outcomes among SMW.

TUPED112

No Means No Worldwide (NMNW): a sustainable approach in achieving HIV prevention among adolescent boys and girls aged 9-14 years in Benue State

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Background: Gender-based violence (GBV) is both a cause and consequence of HIV, significantly affecting clinical outcomes and posing a barrier to epidemic control. Addressing GBV and gender inequality is critical for ending the AIDS epidemic and protecting human rights. In Benue State, high rates of GBV emphasize the urgent need for evidence-based interventions. No Means No Worldwide (NMNW) program is a dual gender intervention aimed at preventing gender based violence by educating adolescents aged 9-14years. The program delivers 10 transformative modules in either five 2-hour or ten 1-hour sessions across schools, communities, and religious centers.
This study evaluates the impact of the NMNW intervention on the knowledge of GBV among boys and girls aged 9-14 years in Benue state.
Methods: In Benue state, 4,404 adolescent boys and 4,270 adolescent girls were enrolled into the program between October 2023 and September 2024, with 2,526 boys and 2,788 girls voluntarily selected for pre and post-intervention assessments after completion of the five 2-hour classes or ten 1-hour classes to evaluate their knowledge of GBV. A pre and post study was used to measure the program's impact on GBV knowledge. Microsoft Excel was used to compute test scores. Statistical analysis was conducted using SPSS, to assess the significance of the changes in knowledge scores between the pre- and post-intervention.
Results: A total of 5314 participants, 2526 boys and 2788 girls completed both pre-and post-intervention questionnaires. An improvement in knowledge was found in both with statistical significance at ($P<0.05$). Receiving the intervention improved the awareness and prevention of GBV from 18% to 86% (boys) and 21% to 92% (girls) with statistical significance ($P<0.05$). These results demonstrates that the intervention was effective in improving knowledge of GBV among the study population.
Conclusions: Findings from this study highlight the significant impact of the NMNW program in improving knowledge of GBV among adolescent boys and girls aged 9-14 years. These results emphasize the program's potential as an effective, scalable, and adaptable model for GBV prevention and *as* a tool for advancing HIV prevention and control efforts in this subpopulation. We recommend further research on leveraging GBV knowledge to combat GBV

TUPED119

Exploring gender disparities in viral load suppression among people with HIV: insights from a cohort study at the University Teaching Hospital of Kigali

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Background: Gender disparities in HIV treatment outcomes present a major obstacle to achieving sustained viral load suppression (VLD < 1000 copies/ml), a key indicator of effective HIV care. In Rwanda, where the national goal is to end HIV by 2030, understanding gender-based differences in antiretroviral therapy (ART) outcomes is essential. This study examines the 2023-2024 cohort of people living with HIV (PLHIV) at the University Teaching Hospital of Kigali (CHUK) to evaluate viral load suppression rates by gender and age.
The objective is to explore how gender norms influence ART outcomes and provide data to support the development of targeted interventions aimed at improving HIV care in Rwanda.
Methods: This retrospective cohort study analyzed routine clinical data of PLHIV at CHUK during the 2023-2024 period. Participants were stratified by gender and categorized into six age groups: under 10 years, 10-14 years, 15-19 years, 20-24 years, 25-49 years, and 50+ years. Viral load suppression (suppressed vs. unsuppressed) was the primary outcome. A Chi-Square test was used to assess the association between gender and viral suppression rates.
Results: Significant gender-based differences in viral suppression were observed in the 15-19 years and 20-24 years age groups. In the 15-19 years group, 93% of males (28/30) achieved suppression compared to 57% of females (31/54), with a statistically significant difference ($p = 0.00056$). In the 20-24 years group, 84% of males (52/62) suppressed viral load, while 76% of females (71/93) did, but the difference was not statistically significant ($p = 0.257$).
Female suppression rates were generally lower than males in most age groups, except for under-10 and 10-14 years, where no significant gender differences were observed. The Chi-Square test showed a statistically significant association between gender and viral suppression ($\chi^2 = 89.09$, $p = 1.47 \times 10^{-12}$).
Conclusions: This study highlights gender disparities in viral load suppression among PLHIV, with significant differences observed in younger age groups.

The findings suggest that gender-sensitive interventions are essential to address these disparities and optimize HIV care. Targeted strategies focusing on ART adherence and gender-transformative approaches could help reduce these gaps, contributing to Rwanda's goal of ending HIV by 2030.

TUPED120

Gender-responsive interventions for HIV prevention and care: lessons from Rwanda

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Background: In Rwanda, Key and vulnarable populations, including female sex workers (FSWs), men who have sex with men (MSM), and adolescent girls and young women (AGYW), face disproportionate HIV risks due to structural, social, and economic vulnerabilities.

This study evaluates the effectiveness of gender-responsive interventions in reducing HIV incidence and improving care engagement among these key and vulnarable populations.

Methods: A mixed-methods approach was used, combining program data analysis (2023-2024) with (4,661 MSM, 2,541 FSW and 457 AGYW) structured interviews from key and vulnarable populations. Multilevel logistic regression and propensity score matching assessed intervention impacts on HIV testing, PrEP uptake, and ART adherence, with interaction terms exploring urban-rural disparities. Descriptive statistics and thematic analysis provided insights into quantitative outcomes and barriers to accessing HIV services.

Results: HIV testing rates increased significantly across all groups: FSWs (67%), MSM (59%), and AGYW (70.3%) ($p < 0.001$). PrEP uptake was highest among AGYW (aOR 3.45, 95% CI: 2.98-4.01) compared to FSWs (aOR 2.87, 95% CI: 2.32-3.42) and MSM (aOR 2.15, 95% CI: 1.78-2.62). ART adherence improved among MSM (33%) and FSWs (28%) ($p < 0.05$). Urban participants demonstrated greater benefits than their rural counterparts (interaction $p = 0.02$).

The findings highlighted reduced stigma, trust in healthcare providers, and the role of peer support networks as key facilitators of intervention success.

Conclusions: Gender-responsive interventions have demonstrated significant impact in improving HIV prevention and care outcomes among FSWs, MSM, and AGYW in Rwanda.

Tailored data-driven approaches addressing gender-specific risks and barriers are essential for achieving equitable health outcomes. Future research should focus on long-term outcomes to further inform policy and programming.

Implementation research to scale up HIV testing

TUPEE113

Impact of AP3 strategy on the diagnosis of HIV in children in selected health facilities in Malawi: a comparative analysis of pre and post-intervention

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Background: Malawi has made strides in achieving UNAIDS 95-95-95 targets however, early diagnosis of HIV in children remains a great challenge. Approximately 46,600 children aged 0-14 years in Malawi are living with HIV yet only 34,000 (73.1%) are aware of their status. This leaves 12,500 children (26.9%) undiagnosed falling short of the 95% UNAIDS targets. To address this gap, Malawi AIDS Counselling and Resource Organisation (MACRO) adopted and implemented the Accelerating Progress in Pediatrics/PMTCT (AP3 strategy). This study compares data pre and post implementation of the AP3 strategy to evaluate its impact on the diagnosis of HIV in children.

Methods: A cohort study was conducted in seven healthcare facilities in Malawi, comparing data from 7 months pre-intervention (August 2023–February 2024) to 7 months post-intervention (March–September 2024). The AP3 strategy involved comprehensive interventions, including healthcare provider orientation, index testing, under-five testing, family testing days, youth-friendly health services, peer-led HIV self-test kit distribution, and active follow-up of postnatal mothers for HIV testing.

Data analysis was performed using descriptive and inferential statistics, including t-tests, in MS excel.

Results: Pre-intervention, 14175 children were tested for HIV, with 83 diagnosed as HIV positive (0.5%). During post-intervention, 61468 children were tested and 987 were diagnosed HIV positive (1.6%). There was a significant increase in both diagnostic yield and testing coverage ($p<0.001$) and ($p <0.05$) respectively. Linkage to care and treatment improved from 79% to 92% ($p <0.01$). Qualitative findings from healthcare providers and caregivers emphasized increased awareness contributing to the strategy's success.

Conclusions: The AP3 strategy significantly improved pediatric HIV diagnosis and linkage to care in Malawi, emphasizing the value of integrating services, provider orientation, and strengthened community partnerships. These findings suggest that scaling up the AP3 strategy could strengthen pediatric HIV programs in resource-limited settings, contributing to achieving the UNAIDS 95-95-95 targets.

TUPEE114

Acceptability and feasibility of HIV self-testing among adolescent girls and young women in rural Northern Uganda: a baseline formative study

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Background: Adolescent girls and young women (AGYW) in Uganda bear a significant HIV burden, accounting for 25% of new diagnoses. Despite improved HIV testing services, AGYW in rural areas face barriers to facility-based testing due to stigma, physical access barriers, and confidentiality concerns.
This study assessed the acceptability and feasibility of HIV self-testing (HIVST) among AGYW in rural Northern Uganda.
Methods: This cross-sectional study was part of a baseline assessment for a quasi-experimental trial evaluating community-led HIVST among AGYW aged 15–24 years in 5 sub-counties in Omoro District. Data were collected using systematic random sampling of households, with trained research assistants administering structured questionnaires on tablets.
The survey captured demographic characteristics, sexual history, HIV knowledge, prior testing practices, and attitudes toward HIVST. Factors influencing HIVST acceptability were analyzed using simple logistic regression in Stata 18.0.
Results: We enrolled 415 AGYW (median age: 19 years; IQR 17–22); 51.8% were adolescents, 23.1% had secondary education, and 41.4% were married/cohabiting. Sexual activity was reported by 74.2%, and 12.7% had multiple sexual partners in the past year. While 75.6% had ever tested for HIV, only 28.0% had heard of HIVST, and 6.0% had used it. Acceptability of HIVST was 93.0%, with 53.3% preferring blood-based tests.
Acceptability was associated with older age (odds ratio (OR): 1.19, 95% confidence interval (CI): 1.03–1.37, p=0.017), prior sexual activity (OR: 2.67, 95%CI: 1.25–5.71, p=0.011), and previous HIV testing (OR: 2.32, 95%CI: 1.07–5.04, p=0.033). Preferred access points included government health facilities (64.8%), community hotspots (57.8%), and friends (33.3%). HIVST support was desired by 61.0%, preferring health workers (69.6%) and friends (26.1%). Key anticipated challenges included result interpretation (57.1%), insufficient information (53.7%), and performing HIVST (52.3%).
Conclusions: Our findings indicate high acceptability of HIVST among AGYW in rural northern Uganda, influenced by age, sexual activity, and prior HIV testing experience. Targeted implementation strategies addressing knowledge gaps, providing beneficiary support, and leveraging existing community structures could further optimize HIVST uptake. Research on optimal models of HIVST will be critical to reaching underserved AGYW, reducing persons undiagnosed with HIV, and strengthening HIV prevention and care outcomes in this key population.

Implementation research to scale up prevention

TUPEE115

Designing a community of practice for healthcare workers to adopt integrated PrEP delivery in maternal and child health clinics

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Background: This study aims to test a scale-up package to expand the delivery of pre-exposure prophylaxis (PrEP) for pregnant and postpartum women in Kenya. This analysis seeks to support healthcare workers (HCWs) in integrating PrEP within maternal and child health (MCH) services by identifying preferences for designing and implementing a community of practice (CoP). CoPs have been used in low- and middle-income countries (LMICs) to disseminate best practices and provide a space for group problem-solving. We are piloting a CoP for healthcare workers to facilitate interaction and co-learning based on the findings from this analysis.
Methods: We conducted 12 focus group discussions (FGDs) with 94 participants, including HCWs, facility leadership from MCH clinics, and county and national-level representatives in Kisumu, Siaya, and Homa Bay counties between July and September 2024. Data were transcribed verbatim and analyzed using matrix-based rapid qualitative analysis. Two reviewers identified key themes related to the design, content, and implementation of CoPs for adopting integrated PrEP delivery in MCH clinics.
Results: Three main themes were identified regarding factors affecting the design and launch of a CoP for integrated PrEP delivery in MCH.
First, CoPs require early and thorough stakeholder engagement to reflect member preferences. There was a strong preference for WhatsApp as a space for CoP member interaction, given its familiarity. Participants also emphasized the importance of accessing updated PrEP guidelines and practical guidance for counseling on eligibility, side effects, pill burden, and partner stigma through the CoP.
Second, CoPs should provide ongoing capacity building for all levels of HCWs, not just direct service providers. Participants preferred a single CoP for all cadres rather than separate spaces by level.

Third, capacity building should be integrated into existing health systems, using models like the national training of trainers and regular continuing medical education sessions

Conclusions: CoPs to facilitate PrEP in MCH are likely feasible with WhatsApp and would enable providers to keep up with guideline changes and learn innovative program implementation strategies from fellow providers. Effective COPs could include varied MCH topics with tight integration within the health system

TUPEE116

One-year implementation outcomes of cabotegravir long-acting injectable PrEP in men who have sex with men (MSM) & transgender men (TGM): findings from the PILLAR study

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Background: Long-acting cabotegravir (CAB-LA) is the first and only approved LA medication for HIV-1 PrEP, addressing barriers to daily oral PrEP. PILLAR (NCT05374525) is a Phase IV implementation science study evaluating strategies for integrating CAB-LA into care at US PrEP clinics. We present 12-month implementation outcomes and experiences of MSM and TGM receiving CAB-LA.

Methods: Seventeen clinics were randomized 2:1 into dynamic (treatment) and routine (control) implementation. From May 2022 to August 2023, 201 participants initiated CAB-LA and were followed through Month 12 (M12). Baseline (BL) and M12 surveys assessed implementation outcomes (i.e., acceptability and feasibility) and CAB-LA experiences, and were completed by 186 and 142 participants, respectively. Differences in implementation outcome by arm were assessed using t-tests. Interviews with 44 participants at M12 were analyzed.

Results: At BL, 6% were TGM, median age (interquartile range) was 35 (29–44) years, 26% were Black, and 38% were Hispanic. Based on a maximum scale score of 5, participants found CAB-LA highly acceptable (BL: mean=4.4 [SD=0.69]; M12: mean=4.6 [SD=0.64]), and feasible (BL: mean=4.4 [SD=0.74]; M12: mean=4.4 [SD=0.76]) at BL and M12. Changes in acceptability and feasibility between BL and M12 were not statistically significant by arm.

At M12, most participants (94%) reported no difficulty with getting to the clinic every 2-months or scheduling CAB-LA appointments. Offering flexible appointments (e.g., injection only appointments, advance appointment booking, injection without appointments) were useful to >90% of participants in supporting their CAB LA journey. Injection reminders were used by 83%, with 89% finding them useful. Implementation support, including education brochures, expectation videos, and digital platforms, were helpful to 70%-80% of participants. Use of supports were relatively similar across arms.

Conclusions: CAB-LA is highly acceptable, feasible, and favored over oral PrEP among diverse MSM and TGM. Flexible scheduling, reminders, and educational tools effectively support CAB-LA use to enhance PrEP uptake and adherence.

TUPEE117

Trends in the HIV prevention continuum among *travestis* and transgender women following PrEP implementation: findings from a large Brazilian cohort

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Background: Daily oral PrEP is available in Brazil since 2018 for all individuals under high vulnerability, including *travestis* and transgender women (TGW). We aimed to describe trends in HIV prevention behaviors in a large Brazilian TGW cohort and to compare HIV pre-exposure prophylaxis (PrEP) outcomes before and after PrEP implementation.

Methods: *Transcendendo* is an open, status-neutral, clinic-based cohort of TGW established in 2015 in Rio de Janeiro, Brazil. At baseline, participants answer structured questionnaires and perform laboratory tests. We calculated prevalences of PrEP and post-exposure prophylaxis (PEP) awareness, interest, and use, as well as HIV prevention preferences and compared outcomes between pre-(2015-2017) and post-(2018-2023) implementation periods. PEP was available in Brazil throughout the entire study period.

Results: Between 2015-2023, 508 HIV-negative TGW were enrolled (pre-PrEP:210[41.3%], post-PrEP:298[58.7%]), with a median age of 27 years (interquartile range:22-36), 73.7% Black/Mixed. Overall, 73.8% knew about PrEP, 89.1% were interested in using it, and 40.5% had used it before.

Comparing the pre- to post-PrEP implementation periods, PrEP awareness increased from 40.8% to 96.6%, interest in oral PrEP decreased from 96.0% to 85.0%, and ever PrEP use increased from 11.3% to 60.6%. The most common PrEP-related concerns were side effects (61.3%), long-term effects (61.0%), and interactions with gender-affirming hormones (56.8%).

Strategies most frequently reported as extremely/very useful for supporting PrEP included increasing HIV prevention literacy both individually (82.0%) and within the community (81.4%). Receiving PrEP information or support through text messages was highly accepted (68.5%). When asked about PrEP modalities, 48.5% would prefer long-acting PrEP options. PEP awareness, interest, and ever

use were 72.5%, 76.9%, and 16.8%, respectively. Although PEP interest decreased from 89.9% to 68.1% between pre- and post-PrEP implementation, PEP awareness (53.0% vs. 87.4%) and ever use (8.8% vs. 22.8%) increased.

Conclusions: The substantial PrEP adoption among Brazilian TGW after its implementation in the country underscores its high acceptability within this community, highlighting its potential to reduce HIV incidence and improve overall sexual health outcomes.

Tailored interventions are needed to further enhance HIV prevention and support PrEP uptake, adherence, and persistence among TGW.

TUPEE118

Community-led approaches to PrEP implementation: insights from community consultations to enhance HIV prevention in Andhra Pradesh, India, 2024

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Background: The HIV epidemic in India is concentrated among key populations (KP). Despite WHO's recommendation of PrEP as a critical HIV prevention tool, uptake in India is hindered by low awareness, affordability, and access. To address this, we implemented a phased PrEP implementation program in Andhra Pradesh, focusing on community engagement, demand creation, and tailored person-centered service delivery models.

Description: The PrEP-UP Andhra program was implemented in three phases from June 2022 to March 2024. Phase I involved listening exercises among 79 KPs (Female Sex Workers and Men who have Sex with Men) to understand PrEP perceptions, barriers, and preferences. Phase II used these findings to develop demand-creation materials, designed PrEP dispensation models, and consult with stakeholders for subsidized PrEP. Phase III involved rolling out PrEP in collaboration with the stakeholders. The consultations were instrumental in shaping effective PrEP implementation strategies. We designed three PrEP dispensation models: One-Stop Centers (OSC), Preferred Private Providers, and Tele-PrEP. Subsidized PrEP at $5 against market value of $25 was provided.

Lessons learned: Findings highlighted low baseline awareness (5%), strong interest (97%), and preferences for Tele-PrEP and OSC based delivery due to convenience and confidentiality. Over 95% KPs suggested $5-$6 for a bottle of PrEP to make it generally accessible. While regular follow-ups and periodic testing were widely accepted, affordability and difficulties in maintaining regular adherence were identified as key barriers for discontinuation. Community-driven education materials and engagement fostered trust and ownership. Key phase III activities included sensitizing1,688 healthcare providers and providing outreach to 70,901 communities through context-appropriate information and education materials to create demand for PrEP services.

Conclusions/Next steps: The phased implementation of community-centered PrEP delivery models demonstrated feasibility and acceptability, particularly through OSCs. Engaging communities early in the process increased ownership and played a pivotal role in designing community-centered models. PrEP outcomes for KPs can be increased by addressing discontinuation rates through enhanced adherence support, offering flexible PrEP delivery options, and maintaining affordability.

There is a clear demand for PrEP, and scaling these models, supported by policies and programs that prioritize making PrEP accessible to those most in need can further augment HIV preventions efforts in India.

TUPEE121

Advancing comprehensive community care: integrating hepatitis screening and testing into PrEP services for MSM/MSW in Kenya

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Background: Pre-exposure prophylaxis (PrEP) has reduced HIV acquisition among high-risk populations, yet the integration of hepatitis B (HBV) and C (HCV) screening remains limited, particularly for men who have sex with men (MSM) and male sex workers (MSW), who face elevated risks of acquiring hepatitis alongside HIV. The Kenya ART Guidelines (2022) advocate for client-centered PrEP delivery, including HBV and HCV testing, to improve care outcomes.

This program aimed to enhance health equity by integrating hepatitis screening, prevention, and management into PrEP services to address the dual risks of HIV and hepatitis acquisition.

Description: Between January 2023 and December 2024, HOYMAS Kenya, a community-led organization, implemented an integrated program to address the dual risks of acquiring HIV and hepatitis B (HBV) and C (HCV) among MSM and MSW in Nairobi, Nyeri, and Kajiado counties. The initiative integrated HBV and HCV screening, prevention, and management into pre-exposure prophylaxis (PrEP) services, including baseline testing, routine follow-up, HBV vaccination, and linkage to care. Community sensitization and peer-led education reduced stigma and increased service uptake by 61%, while data from 876 MSM/MSW provided insights into screening coverage, care linkage, and PrEP adherence. This model highlights the feasibility and impact of integrating hepatitis screening into PrEP to advance health equity for key populations.

Lessons learned: Integrating hepatitis screening into PrEP services plays a vital role in addressing both HIV and hepatitis risks among MSM/MSW. Among 876 clients, 13.2%

were diagnosed for HBV, while 7.1% were diagnosed with HCV, with comorbidity rates of 28.4% and 32.8%, respectively. Following community sensitization, screening uptake increased by 61%, emphasizing the effectiveness of targeted outreach. Routine screening further enhanced early detection, vaccination, and linkage to care, demonstrating the potential for scaling this approach to promote health equity among key populations

Conclusions/Next steps: Integrating hepatitis screening into PrEP services is essential in addressing HIV and hepatitis comorbidities among MSM and MSW. To scale this impact, full implementation of the Kenya ART Guidelines 2022, increased funding for HBV and HCV testing, expanded HBV vaccination, and enhanced education on PrEP and hepatitis are pivotal in advancing health equity and reducing the burden of comorbidity.

TUPEE122

Acceptability and feasibility of integrating enhanced HIV pre-exposure prophylaxis into a sexually transmitted infection clinic in Lilongwe, Malawi

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Background: Oral Pre-Exposure Prophylaxis (PrEP) is a proven HIV prevention tool, yet its integration with sexually transmitted infection (STI) services in sub-Saharan Africa remains underexplored. We assessed the acceptability and feasibility of integrating an enhanced PrEP (ePrEP) delivery program, which included etiologic STI testing and assisted partner notification, at an urban STI clinic in Lilongwe, Malawi.

Methods: We enrolled a cohort of men and women eligible for PrEP and seeking STI services. Participants were classified as index participants (initiated on PrEP), PrEP decliners (eligible but declined) and referred partners (referred by index participants and initiated on PrEP). Index participants completed surveys and HIV/STI testing at baseline and quarterly visits, alongside baseline in-depth interviews. PrEP providers aged ≥18 were also enrolled and completed surveys and interviews at study launch and approximately 6 months after implementation of the enhanced program.

Results: Between March and December 2022, we enrolled 238 clients (174 index participants, 37 PrEP decliners and 27 referred partners; median age 27 [Interquartile Range (IQR): 22, 31], 58% male). There was high acceptability among PrEP-taking participants as most strongly agreed that PrEP-STI integration (98%), assisted partner notification (97%) and etiologic STI testing (99%) were appealing. Among decliners, reasons for declining PrEP were pill burden and concern for side effects. Ten PrEP providers (median age 43 [IQR: 38, 47]) were also enrolled. Acceptability and feasibility were high among providers, with most (≥90%) strongly agreeing that all ePrEP components were likeable, appealing, implementable and easy to implement.

In-depth interviews highlighted convenience and reduced cost burden for participants, and an STI clinic being a strategic entry point for PrEP demand-creation and engagement, as some of the reasons for the high acceptability and feasibility. Lack of space and inadequate staff were cited as barriers.

Conclusions: Integrating PrEP with STI services, including assisted partner notification and etiologic STI testing, was both acceptable and feasible in this study. These findings support the adoption of integrated PrEP and STI care models in sub-Saharan Africa.

TUPEE123

From early adopter to blazing the trail in PrEP service provision: the case of Zambia's successful PrEP scale up

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Background: The 2021 ZAMPHIA reported 28,000 new infections which declined to 23,000 in 2023 according to UNAIDS. Critical to this success has been the introduction and scale-up of pre-exposure prophylaxis (PrEP) in 2018, beginning with service provision in 4 sites. In September 2024, access to PrEP expanded to over 2,000 public health facilities, with Zambia surpassing 1 million individuals initiated on PrEP.

Description: Initial PrEP introduction targeted AGYW and key populations and saw low uptake driven by myths, misconceptions and stigma. In 2019, a PrEP demand generation strategy, Zambia Ending AIDS (ZEA), was developed. ZEA aimed to provide accurate information on HIV prevention, through various platforms including social media, which emphasized taking control of one's sexual health by choosing the preferred HIV prevention to avert HIV acquisition.

This was done in conjunction with an aggressive scale-up plan to increase the number of sites providing PrEP, while capacitating healthcare workers (HCWs) to provide supportive and non-judgmental services.

Lessons learned: In 2018, PEPFAR Zambia initiated 3,311 individuals on PrEP through implementation in 4 pilot sites. In 2019, with service provision expanded to 184 sites, with 23,352 individuals initiated on PrEP. The program saw exponential growth in 2021, where 131,260 clients were initiated through 1,286 sites.

Continued investments in capacity building of HCWs and ensuring equity by expanding access to more rural communities increased the number of sites to 1,605 in 2023, with 273,628 individuals initiated on PrEP.

In 2024, Zambia initiated the largest number of individuals on PrEP in one year, with 368,689 individuals initiated through 2,107 facility and community-based sites.

Conclusions/Next steps: Successful scale-up of PrEP has played a critical role in reducing the number of new infections in Zambia. Key to this success has been the use of a modern demand generation strategy, coupled with capacity building and onsite mentorship of HCWs. Strong collaboration between various stakeholders, including PEPFAR, civil society and implementing partners, under the strong leadership of the Ministry of Health, have catapulted Zambia from an early adopter to global leader.

TUPEE124

Integrating the ShangRing device method to increase options, access and uptake of VMMC services among adult clients in five regions of Tanzania

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Background: With support from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through USAID, the Reaching Impact, Saturation, and Epidemic Control (RISE) project supports VMMC services in 5 regions of Tanzania. Historical delivery of VMMC services uses the dorsal slit (DS) method.

The World Health Organization (WHO) approved the ShangRing device (SR) as an additional method for conducting VMMC. The Tanzania Ministry of Health (MOH) approved SR use in routine services in 2023.

Description: RISE supported the Tanzania MOH to train 20 providers and equipped 5 sites to integrate SR circumcision. The SR target for the 5 sites was 3,000 circumcisions from October 2023 to September 2024. SR usage data from the sites and national health management information system (DHIS2) were reviewed and analyzed to determine:

a. SR target achievement by site,

b. User age distribution for the two methods,

c. Average procedure time reported by providers trained to perform both methods.

Analysis incorporated insights from VMMC providers and promoters.

Lessons learned: RISE surpassed the SR target by achieving 120% (3,594 circumcisions) equivalent to 3% of all 130,263 circumcisions supported by the project during this period. Four of the five SR sites averaged 140% against target (122%-156%), suggesting that SR can be integrated and was effective to meet targets.

The site that did not achieve its target (39%) had unresolved misconceptions about the SR device left in place, pain during device removal and secondary intention healing. 85% of all SR users compared to 93% of DS users were aged 15-24 years while the rest were users aged 25 years and older. The average SR procedure time was shorter, 9 minutes (7-10 minutes) than DS procedure time which averaged 27 minutes (25-30 minutes) conforming to its value proposition as a time-efficient method.

Conclusions/Next steps: Integration of SR in routine VMMC services is feasible and scalable. SR expands choice for men concerned about injection pain, suturing and procedure time associated with the DS method, which deters adult clients from using VMMC services. RISE will involve communities to address persisting misconceptions and barriers to increase access and improve efficiency in SR delivery for men.

TUPEE125

Mentors transforming lives: empowering Zambian adolescent girls and young women (AGYW) to thrive and prevent HIV through the DREAMS initiative

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Background: The PEPFAR DREAMS initiative aims to reduce HIV incidence among adolescent girls and young women (AGYW) by addressing structural, behavioral, and biomedical vulnerabilities. In Zambia, AGYW face risks such as gender-based violence, economic dependency, and limited access to sexual and reproductive health (SRH) services.

This abstract highlights the pivotal role of mentors, functioning as case managers, in the USAID-funded CHEKUP II Project, which operates across seven DREAMS centers to empower AGYW and improve HIV prevention outcomes through a layered service delivery model.

Description: CHEKUP II implemented a mentor-driven case management framework that paired each AGYW with a mentor. Mentors identified vulnerabilities during enrollment, developed individualized intervention plans, and coordinated tailored services.

A service layering matrix combined biomedical services (HIV testing, PrEP, family planning, STI treatment) with psychosocial and structural interventions (mental health support, economic empowerment). Safe spaces fostered mentor-AGYW relationships, enabling AGYW to share challenges openly. Comprehensive care was delivered directly or through external referrals.

Lessons learned: Between 2023 and 2024, 54,874 AGYW were enrolled, with screening highlighting key vulnerabilities: 12% engaged in transactional sex, 42% reported inconsistent condom use, and 74% experienced violence. Mentors facilitated access to biomedical services, initiating 11,349 AGYW on PrEP and conducting HIV testing for

15,925. Structural interventions supported socio-economic needs, with 607 AGYW receiving school subsidies and vocational training. Mentors also connected 9,897 AGYW to mental health services, addressing emotional well-being and fostering resilience. The proactive engagement of mentors was instrumental in linking AGYW to services, building trust, and addressing multifaceted vulnerabilities.

Conclusions/Next steps: The mentor-driven case management approach effectively tailored interventions to AGYW's unique needs, reducing HIV risks and addressing structural and gender-related barriers. Mentors played a critical role in fostering resilience and ensuring access to comprehensive services. Future initiatives should enhance mentor capacity, expand economic empowerment efforts, and leverage multisectoral partnerships to improve outcomes for AGYW in Zambia.

TUPEE126

Experiences with HIV testing among clients initiating CAB-LA: a case series from South Africa

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Background: The introduction of long-acting pre-exposure prophylaxis (PrEP) has raised discussions about HIV testing approaches, and the challenges that may be encountered if PrEP is initiated in individuals with early HIV, undetected through antibody-based rapid point of care (POC) tests.

We aimed to describe the proportion of participants initiating cabotegravir long-acting (CAB-LA) who may have HIV missed when applying standard HIV testing algorithms, and to describe the consequent testing undertaken to confirm an HIV diagnosis.

Methods: This is a sub-analysis of data collected through an implementation study among HIV-negative men and women ≥15 years, offered an option of oral, ring or CAB-LA PrEP in six department of health clinics and three linked mobiles in three districts in South Africa between April and November 2024. All participants were tested using a single, rapid, third-generation POC HIV test in line with national guidelines, at the time of PrEP provision. Test kits used varied by district, depending on local procurement, and were either One Step Anti-HIV (1&2) or Toyo Anti-HIV 1/2.

Further, we conducted laboratory-based HIV viral load testing (Abbott Alinity m HIV-1) among participants initiating CAB-LA. We describe those who had a detectable viral load (VL) at the time of CAB-LA initiation.

Results: Of the 2845 participants initiated on CAB-LA, 2731 had a viral load sample processed in the laboratory, of which 2695 had valid results. Of these, 9/2695 (0.3%) had detectable virus, ranging from 3365 to 7423963 copies/ml. Participants with detectable virus were all female; aged between 19 and 22 years; 3/9 (33%) had prior oral PrEP use but were not using oral PrEP at the time of CAB-LA initiation. Subsequent point of care testing confirmed HIV in 7/9 participants, with the remaining two confirmed either through laboratory-based 4th-generation antibody test and or repeated detectable viral load results.

Conclusions: There were few participants initiated on CAB-LA who were mis-identified as HIV-negative at initiation using rapid POC HIV tests. Of these, most were confirmed HIV-positive using subsequent POC antibody tests. This data provides reassurance for programmes introducing long-acting PrEP methods at scale.

TUPEE127

Acceptability of HIV prevention and sexual health services for men in South African barbershops: owner, barber and client views

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Background: Men in South Africa are less likely to undergo HIV testing, utilise PrEP, or initiate antiretroviral therapy. Community-based barbershops may be useful venues for offering HIV prevention and sexual health services.

We assessed the perceived acceptability and feasibility of barbershop-based HIV prevention and sexual health services in South Africa.

Methods: We surveyed barbershop owners, barbers, and male clients (≥18y) at barbershops in Umlazi township and Durban about the acceptability and feasibility of offering health services, including HIV testing, PrEP, and sexually transmitted infection (STI) management. We asked clients their perceptions of receiving health services in barbershops and barbers and owners about including health service provision in barbershops.

We assessed the association (Chi-Square test) between barbershop location and client age with clients' attitudes towards receiving health services.

Results: We surveyed 8 owners, 27 barbers, and 332 clients at 8 barbershops: 5 township and 3 Durban; median 110 unique clients/month (IQR 85-150). Seven owners (88%) and 24 barbers (89%) were comfortable with clients receiving health services in their barbershops. Twenty-five barbers (93%) were comfortable talking to clients about health topics if given proper training; however, 15 (57%) reported lack of privacy as a potential barrier.

Clients had median age 28y. The majority (201, 61%) visit the barbershop at least twice/month and attend the same barbershop for most visits (229, 69%); 205 (62%)

reported they would be comfortable receiving sexual health services at the barbershop, specifically, 141 (43%) HIV testing, 161 (48%) oral and 152 (46%) injectable PrEP, and 152 (46%) STI testing. Among those comfortable receiving services, 153/203 (75%) had no service provider gender preference.

Clients from barbershops in the township, compared to Durban, were more willing to receive health education (p=0.009), health services (p=0.01), oral PrEP (p=0.018) and injectable PrEP (p=0.019) in the barbershop. Men <30y were more willing to receive oral PrEP (p=0.002) compared to those ≥30y.

Conclusions: Most owners, barbers, and clients were comfortable with the delivery and receipt of HIV prevention and sexual health services in barbershops. Barbershops are a novel, male-centred, community-based venue for reaching men with HIV prevention and sexual health services.

TUPEE128

PrEP awareness and uptake among high school learners in the context of school-based SRH/HIV prevention: findings from the Safer Choices baseline survey in rural KwaZulu-Natal, South Africa

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Background: Despite the free availability of HIV pre-exposure prophylaxis (PrEP), uptake of PrEP remains low among young people. We investigate PrEP awareness and uptake among high school learners prior to roll-out of a multi-component whole-school health-promotion intervention, Safer Choices, in a rural area with high HIV prevalence in KwaZulu-Natal (KZN), South Africa.

Methods: Between January 2023–December 2024, we conducted a pilot study to assess acceptability of Safer Choices optimised with HIV/SRH service delivery through a randomized cluster trial Thetha Nami (Trial #xxx) in KwaZulu-Natal.

We conducted a pre-intervention baseline survey recruiting n=361 randomly selected learners in Grade 9-10 aged 15-19, from five purposively selected high schools to represent rural/urban schools. Survey was tablet-based with self-completed sections to measure exposure and changes in self-reported SRH and HIV-risk behaviors. Descriptive analysis Pearson's Chi-squared test and Fisher's exact test was conducted to determine factors associated with uptake of PrEP.

Results: Half of the learners 52.4%(189/361) were male, and overall median age was 16 years (interquartile range (15.0-17.0). Most learners were in Grade 10 (70.4%), 24.9% from food insecure households and almost all (98.3%) benefitted from the school-feeding scheme.

About a quarter (80/355 22.5%) of learners reported ever having sex, with a higher proportion (31.0% vs 13.5% p<0.001) being boys.

Of these, 30.0% had condomless sex in the last 12months, 43.5% being girls p=0.236, but just over half of learners (54.3%) didn't know their partners' HIV status.

Overall, PrEP awareness was high 57.9% (209/361), but offer and uptake was low 3.3% (7/209). Among those who used PrEP, 4/7 (57.1%) took oral PrEP daily. PrEP uptake was higher 6 (85.7%) in older learners (18-19 vs 15-17 p<0.001) and those having condomless sex 5 (71.4%) p<0.001.

The majority 353/361 (97.8%) of learners self-reported being HIV negative, no difference between boys and girls p=0.265. Regarding PrEP preference, 54.8% (198/361) preferred a two-monthly injection.

Conclusions: Although many learners were aware of PrEP in this rural setting, there is need develop strategies to deliver PrEP including injectable PrEP to learners. A multi-component whole-school intervention Safer Choices offers an opportunity to increase PrEP awareness and support PrEP uptake in this rural area with high sexual risk and vulnerability.

TUPEE129

Survival of individuals on long-acting cabotegravir for HIV pre-exposure prophylaxis and associated discontinuation factors in Zambia: a 10 months retrospective cohort analysis

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Background: Long-acting Cabotegravir (CAB-LA) is a promising injectable option for HIV pre-exposure prophylaxis (PrEP). Despite its potential to improve adherence, limited literature exists on survival on CAB-LA among users. USAID DISCOVER-Health, implemented by JSI, has been supporting CAB-LA implementation in Zambia since February 2024. This study assessed the survival of individuals on CAB-LA and identified factors associated with discontinuation.

Methods: A retrospective cohort analysis was conducted using electronic health records data from clients who initiated CAB-LA between February and September 2024 in Kitwe and Chibombo districts over 10 months.

Survival analysis, including Kaplan-Meier estimates and Cox regression, were employed to determine survival and identify associated discontinuation factors. Discontinuation was defined as missing a scheduled injection appointment for 30 days or more.

Results: The cohort had 1,308 individuals with a mean age of 29 years ranging from 17 to 67 years, 785 (60%) females and 523 (40%) males. Population category included 536 (41%) general population, 366 (28%) adolescent girls and young women (AGYW), 353 (27%) young men, and 52 (4%) key populations. They contributed 6,386 person-months of follow-up, median survival time of 7 months, with 823 discontinuations making 0.129 per person-month (95% CI: 0.120–0.138) incidence rate. Oral PrEP-experienced individuals had a 33% lower hazard of discontinuation compared to naive clients. Males had a 20% higher hazard compared to females. Age was protective, with each additional year associated with 1% reduction in the hazard of discontinuation. Kaplan-Meier survival estimates revealed significant differences in survival probabilities by oral PrEP experience, with experienced individuals demonstrating better retention (log-rank p<0.0001). AGYW (HR=1.24, p=0.014), Key Populations (HR=1.35, p=0.052), and Young Men (HR=1.46, p<0.001) exhibited higher hazards of discontinuation compared to the general population, although these associations did not persist after adjusting for other variables.

Conclusions: Survival on CAB-LA for PrEP was moderate, with higher discontinuation risks among males, younger people, and PrEP-naive clients, while prior oral PrEP experience and increasing age were protective. Targeted interventions, including enhanced counselling and differentiated services, are recommended to support these more at-risk groups. Further research is needed to establish a standard median risk period for accurately assessing PrEP retention

Implementation research to scale up treatment

TUPEE130

Improving viral load coverage initiative among children 0-14 yrs living with HIV on treatment through intensified site support in Zimbabwe 2024: lesson learnt through implementation

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Background: Zimbabwe has approximately 69,000 children aged 0-14 living with HIV (CLHIV). The country's progress toward achieving the global 95:95:95 targets for children lags behind adults, with coverage rates of 82:81:88 compared to 97:98:96 among adults, according to 2023 UNAIDS estimates. National viral load testing and suppression coverage among children remain suboptimal at 93% and 64%, respectively, with geographic and age-related variability.

This abstract discusses the lessons learned from a PEPFAR initiative aimed at improving viral load coverage in 24 USAID-supported districts in Zimbabwe.

Description: To address viral load testing gaps, USAID supported 24 of Zimbabwe's 44 PEPFAR districts with an intensified improvement plan. This involved reviewing HIV case management files and creating a line list of children missing viral load tests. Follow-ups were conducted through SMS, phone calls, and community visits. Dedicated teams managed appointments, follow-ups, and data entry, ensuring testing in health facilities or communities based on caregiver preference. High viral load clinics were established to address suppression gaps, with monthly audits guiding program adjustments.

Lessons learned: Viral load coverage improved across age groups, with children under 1 year increasing from 25% in FY23 Q4 to 44% in FY24 Q4 (Fig 1).



Figure 1. Improved viral load coverage among children 0-14 yrs in the USAID Zimbabwe support districts, FY23-FY24.

Coverage in the 1-4-year age group rose from 45% to 70%, and in the 5-9 and 10-14 age groups, coverage increased from 64% to 74% and from 76% to 83%, respectively. Despite these gains, viral load suppression remained suboptimal (<95%) for children under 1 year and those in the 1-4-year group (Fig 1).

Conclusions/Next steps: Viral load monitoring is essential to ending HIV/AIDS in children by 2030. This case study demonstrates the feasibility of improving viral load coverage and suppression through community and facility collaboration. Further efforts are needed to scale these initiatives across all ART sites for continuous improvement.

TUPEE131

Can a one-time economic incentive enhance the effectiveness of community-based tracing to re-engage people who have disengaged from HIV care? Rudi Kundini: a cluster randomized trial in Tanzania

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Background: Out-of-care people living with HIV (PLHIV) play a disproportionately large role in onward HIV transmission. Innovative interventions are needed to support this important subgroup.

Methods: We conducted a Type 1 hybrid implementation-effectiveness trial among out-of-care PLHIV (lost-to-follow-up or missed appointment by ≥28 days) at 32

health facilities in Lake Zone, Tanzania to examine the effectiveness of home-based care (HBC) counseling and a one-time economic incentive on HIV care engagement. Facilities were randomized 1:1 to standard HBC counseling or HBC counseling plus a one-time incentive (~$10 USD; half provided at enrollment and half provided conditional on returning to care within 90 days).

The primary outcome was care re-engagement with viral suppression (<1000 copies/mL) at 6 months.

Secondary outcomes included retention in care with viral suppression at 12 months, 6-month and 12-month retention, and viral suppression using an alternative <50 copies/mL threshold.

Generalized estimating equations and a cluster-based permutation test were used to estimate adjusted risk differences (aRD) and 95% confidence intervals (CI).

Results: Between July 25, 2022 and October 19, 2023, 567 PLHIV were enrolled (62% female, mean age 36.9 years, mean time out-of-care 4 months), of which nearly 99% returned to care within 90 days. At 6 months, 82% of intervention participants were in care and virally suppressed vs. 76% of comparison participants (aRD = 4.3, 95% CI: -3.6, 12.2; p-value=0.84). At 12 months, 69% of intervention participants were in care and virally suppressed vs. 62% of comparison participants (aRD = 6.4, 95% CI: -4.7, 17.6, p-value=0.42). Risk differences using a <50 copies/mL threshold for viral suppression were larger; however, based on the width of the CI we cannot rule out the possibility of no effect.

Conclusions: We found unexpectedly high rates of re-engagement in HIV care for out-of-care PLHIV receiving standard HBC counseling. Adding a one-time economic incentive demonstrated modest but statistically insignificant improvements in retention and viral suppression at 6 and 12 months. Nevertheless, in both groups, approximately ⅓ were not achieving traditional metrics of success in HIV care at 12 months, suggesting that more substantial support to overcome persistent barriers is needed for this subgroup.

TUPEE132

Advancing HIV epidemic control: reducing treatment interruptions through continuous quality improvement in Niger State, North-Central Nigeria

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Background: Interruption in Treatment (IIT) among people living with HIV (PLHIV) presents a critical barrier to achieving viral suppression and advancing HIV Epidemic control. Niger State has faced persistent challenges with heightened insecurity amongst other issues such as stigma, socio-economic barriers and data quality gap with consequent high IIT rates, necessitating innovative and context-specific interventions.

This study highlights the application of continuous quality improvement (CQI) methodologies to address IIT and enhance treatment continuity in resource-constraint and security-ravaged settings.

Methods: A CQI-driven approach was implemented across 12 high-volume facilities in Niger State between July – September 2024. Root Cause Analysis identified key barriers: service disruptions due to incessant banditry, sub-optimal documentation, client stigma, and prevailing economic hardships. Interventions included establishing multidisciplinary quality improvement teams, regular data reviews to identify IIT trends, and developing client-centered retention strategies. Key activities included community engagement with security personnel for safe drug delivery in conflict zones, CBO-driven service delivery in the community, psychosocial support through support group empowerment, healthcare worker training on effective counseling skills, client tracking, real-time records updates and appointment scheduling.

Results: The intervention achieved a 63.2% reduction in the cumulative IIT rate, dropping from 3.8% during the pre-intervention period (April–June 2024) to 1.4% during the intervention period (July–September 2024), demonstrating the significant impact of targeted CQI interventions over the three months.

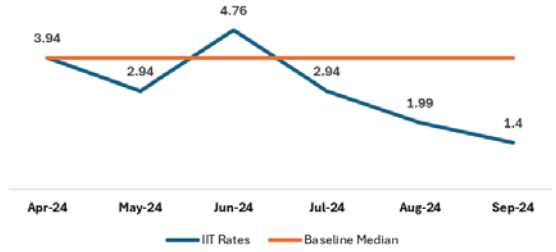


Figure. Cumulative monthly IIT rate.

Conclusions: CQI interventions, using Root Cause Analysis and PDSA cycles, significantly reduced IIT rates across Niger State facilities. These results highlight the effectiveness of Continuous Quality Improvement (CQI) strategies, through targeted, data-driven approaches and client-centered CQI strategies in improving treatment continuity and retention, with the potential for scaling across regions.

Global and national financing, economic evaluation and sustainability

TUPEE133

Incentivizing PrEP investment: analysis of PrEP budgets in countries accessing PrEP matching funds in Global Fund Grant Cycle 7

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Background: In 2023, Kenya, Mozambique, Nigeria, South Africa, Uganda, and Zambia accounted for 64% of all people receiving pre-exposure prophylaxis (PrEP) but saw >380,000 HIV acquisitions. To catalyze PrEP and post-exposure prophylaxis (PEP) scale-up, the Children's Investment Fund Foundation (CIFF) and the Global Fund (GF) established a Matching Fund (MF), incentivizing increased PrEP investment in these countries in Grant Cycle 7 (GC7).
We analyzed publicly available GF budgets to evaluate impact on funding allocated towards PrEP.
Methods: We extracted budgets from GF's financial insights dashboard for GC5-GC7 across 5 countries accessing PrEP MFs. While eligible for MFs, South Africa was excluded as their GC7 budget was not available at the time of analysis.
Results: In aggregate, countries accessing MFs increased PrEP budgets 46-fold GC6-GC7, while non-MF countries saw a 3-fold increase (Figure 1). Allocation of PrEP budget by population varied (Figure 2), with greatest overall investments in adolescent girls and young women, sex workers, and men who have sex with men. All 5 countries allocated PrEP budget towards prisoners and people who use drugs for the first time in GC7.



Figure 1. Total budget for PrEP by country, GC5-GC7

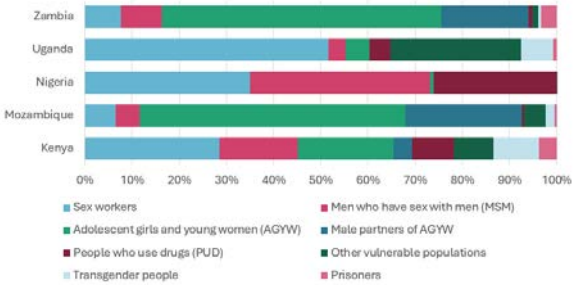


Figure 2. GC7 PrEP budget by country and population.

Conclusions: GF PrEP budgets grew rapidly since GC5. Significant increases from GC6-GC7 in MF countries compared to all others suggest the MF incentivized increased investment. While this represents a critical investment objective, analysis is needed to assess epidemiological impact, quality of services, PrEP/PEP uptake, and choice.
Further financial analysis is also recommended given limitations of budget analysis (some PrEP funding falls outside of PrEP-specific modules and budgets do not translate to spend, among others).

Health systems, health systems strengthening and partnerships

TUPEE134

Advancing cervical cancer screening and treatment for women living with HIV in Northern Zambia: lessons learnt from the "Screen and Treat" approach

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Background: Cervical cancer is the leading cause of cancer-related morbidity and mortality among women in Zambia. Women living with HIV (WLHIV) are four to five times more likely to develop cervical cancer. Screening and prompt treatment helps to prevent and cure cervical cancer but remains a major challenge especially for women living in rural areas.
The USAID Action HIV Project, in collaboration with Zambia's Ministry of Health, implemented an enhanced cervical cancer screening and treatment program in Luapula, Muchinga, and Northern provinces. We analyzed the outcomes of this initiative in 2023 and 2024.
Methods: In 2024, the Project expanded an intensive training program for healthcare staff in screening and treatment of precancerous lesions and procured additional equipment to facilitate a "screen and treat" approach. WLHIV aged 15-49 years were screened using visual inspection with acetic acid (VIA) or Human Papilloma Virus (HPV) DNA collection kits, with HPV-positive cases undergoing confirmatory VIA screening as per national algorithm.
Treatment options included cryotherapy, thermocoagulation, and loop electrosurgical excision procedure (LEEP). A two-sample test of proportion (α=0.05) was used to compare treatment coverage between 2023 and 2024.
Results: The Project screened 31,479 WLHIV in 2023 and 30,448 in 2024. VIA-positive rates were 8.6% (2,708) in 2023 and 8.2% (2,508) in 2024. Treatment coverage for VIA-positive cases significantly increased from 57.9% (1,568) in 2023 to 92.7% (2,326) in 2024 ($z=28.90$, $p<0.001$).
Luapula province consistently reported the highest proportion of VIA-positive cases (77.4% in 2023 and 71.2% in 2024). HPV positivity rates increased from 11.8% (1,009/8,519) in 2023 to 20.3% (257/1,269) in 2024, while VIA positivity among HPV-positive WLHIV decreased from 22% to 11.7%.
Conclusions: The implementation of the „screen and treat" approach dramatically improved treatment coverage for WLHIV with VIA-positive results, increasing from 57.9% to 92.7%. This strategy is highly effective in enhancing access to cervical cancer prevention and treatment services for WLHIV in resource-limited settings. We further recommend research to elucidate the possible causes of the high VIA-positive rates in Luapula province.

TUPEE135

Potential policy implications and scalability of PMTCT through community HIV testing for pregnant women in unconventional delivery settings

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Background: Unconventional delivery settings, such as traditional birth attendants (TBA) centers and spiritual healing homes, serve as primary care providers for pregnant women in many resource-limited settings. Integrating community-based HIV testing and Prevention of Mother-to-Child Transmission (PMTCT) services in these settings is critical for eliminating pediatric HIV infections.
This abstract explores the potential policy implications and scalability of this approach, drawing from implementation experiences in high-burden regions.
Methods: A PMTCT intervention was designed to integrate community HIV testing services into unconventional delivery settings. Women who are pregnant and accessing care in unconventional delivery settings were offered HIV testing, counseling, and linkage to antiretroviral therapy (ART) if diagnosed positive.
Stakeholders, including TBAs and community leaders, were trained on PMTCT protocols and referral systems. Program data on service uptake, maternal ART initiation, and infant HIV testing were analyzed to assess outcomes and scalability.
Results: The intervention reached over 25,821 pregnant women across unconventional settings, with an HIV testing uptake of 98%. Among those tested, 72 were diagnosed with HIV, and all individuals who tested positive were successfully linked to care.
The model demonstrated cost-effectiveness by leveraging existing community structures and reducing the need for additional infrastructure. However, challenges included stigma and limited regulatory oversight in unconventional settings.
Policy Implications: The integration of PMTCT services into unconventional delivery settings requires policy frameworks to formalize partnerships with TBAs and other informal providers. Recommendations include:
1. Establishing standardized PMTCT training and certification programs for TBAs and spiritual healers.
2. Strengthening referral networks between unconventional settings and formal health facilities.
3. Incorporating community HIV testing in national PMTCT guidelines and scaling up funding for such programs.

Scalability: This model is scalable across resource-limited settings with high reliance on unconventional delivery systems. Success depends on stakeholder engagement and integration into national health strategies.
Conclusions: PMTCT through community HIV testing in unconventional delivery settings has the potential to bridge gaps in maternal and child health services. Policymakers should prioritize this approach to achieve EMTCT and address inequities in access to care in resource-limited settings.

TUPEE136

Integrated management of hepatitis B among pregnant women with HIV as a part of routine care at antiretroviral therapy clinics, Andhra Pradesh, India- 2024

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Background: India is one among three countries contributing to ~50% of the global burden of hepatitis B. Most of the global burden of chronic hepatitis B is attributed to vertical transmission from mother to infant with a risk of ~90% for progression to chronic infection among exposed infants.
We describe the package of care provided to all pregnant women living with HIV (PWLHIV) and determine pregnancy outcomes among those accessing care at antiretroviral therapy (ART) clinics in Andhra Pradesh (AP).
Methods: During January 2022-November 2024 at 54 ART clinics we integrated hepatitis B testing using hepatitis B surface antigen (HBsAg) rapid tests for all people living with HIV on ART, providing hepatitis B vaccination for PWLHIV who test negative, and initiating rapid start of a tenofovir containing ART regimen for PWLHIV with hepatitis B co-infection. We analyzed data from routine program records to calculate the HBsAg positivity and estimated the difference in the pregnancy outcome (live birth) among those with and without hepatitis B post-delivery using chi-square test for proportions.
Results: Of the 2,864 PWLHIV, 2,472 (86.3%) were tested for HBsAg. The median age was 24 years (IQR 21–28). Among these, 1,388 (56.1%) were ART naïve at screening and 83% initiated ART on the same day. HBsAg positivity was 1.1% (28/2,472) and 96.3% were continued/transitioned to tenofovir based regimen. Hepatitis B vaccination was offered to 88.7% (2,168/2,444) of those testing negative and 72% completed three doses. All live infants received a monovalent dose of hepatitis B vaccine within the first 24 hours after birth. There was no statistical difference (p>.05) in pregnancy outcomes among PWLHIV with (82.1%) and without hepatitis B (87.4%).
Conclusions: The intervention demonstrated access to an integrated person-centred package of hepatitis B services for PWLHIV as a public health approach within routine ART care. The pregnancy outcomes did not differ among PWLHIV with and without hepatitis B coinfection.

TUPEE137

Client-centered quality improvement: implementing digital feedback systems in Nigerian HIV care settings

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Background: Client satisfaction is crucial for healthcare quality and Anti-Retroviral Therapy (ART) adherence. In Nigeria, home to 1.9 million Persons Living-with HIV (PLHIV), understanding client experiences is vital for addressing service delivery gaps and achieving the UNAIDS third „95" target.
To address this gap, the Institute of Human Virology Nigeria (IHVN) piloted a novel digital feedback system, using a mobile application and web platform to evaluate Client satisfaction across critical service points in HIV care to identify areas requiring improvement, and ultimately enhance service delivery to support viral suppression among PLHIV.
Methods: The Clientshot Continuous Quality Improvement initiative was conducted for three months (September-November 2024) in 40 high-volume healthcare facilities across Kwara, Gombe, Anambra, and Ebonyi states Nigeria. A custom mobile application with offline capabilities and automated data synchronization was used to collect client feedback via a structured questionnaire. All PLHIV visiting the health facilities were invited to participate.
Feedback was categorized into complaints and commendations across key service points: adherence counseling, medical records, pharmacy, medical review/consultation, and laboratory services.
Data validation was performed using quality checks and verification before analysis using simple frequencies and percentages.

Results: Of the 24,346 PLHIV visiting the facilities during the reporting period, 14,625 provided feedback, resulting in a 60% response rate. Client satisfaction was high, with 96.5% (14,114) commendations and 3.5% (511) complaints. Adherence counseling received the highest proportions of both complaints (32%) and commendations (30%). Other service points, including medical review, pharmacy, medical records, and laboratory services, followed similar patterns. Of 511 complaints, 61% (309) were unresolved, 6% (32) were in progress, and only 33% (170) were fully resolved, at the end of the pilot highlighting gaps in issue resolution.
Conclusions: The Clientshot CQI pilot demonstrated the effectiveness of digital tools for client feedback and emphasized integrating this feedback into quality improvement efforts.
While satisfaction levels were high, the 61% unresolved complaints highlight critical gaps in responsiveness and follow-up, risking care quality and outcomes. A robust complaint resolution mechanism and targeted interventions are essential to address service delivery challenges, enhance client satisfaction, and support the UNAIDS third "95" target for ART adherence.

HIV and development synergies

TUPEE138

Utilizing digital literacy for economic empowerment of adolescent girls and young women in the DREAMS program in Zambia

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Background: Adolescents and young people account for around half of all new HIV infections in Zambia. As part of comprehensive HIV prevention, the USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP) I project through the Determined, Resilient, Empowered, AIDS-free, Mentored, Safe (DREAMS) initiative provides digital literacy training to adolescent girls and young women aged 15-24 years for formal or self-employment.
Description: The digital literacy training was based on four tiers, Tier 1 – school dropouts, Tier 2- school leavers, Tier 3- in-school and Tier 4 – any other AGYW in the age range. The training was customized to empower AGYW with digital skills to enable them acquire skills for formal or self-employment to dissuade them from engaging in transactional sex that predisposes them to the risk of HIV acquisition. We report on the utility of digital literacy training for economic strengthening of AGYW as part of comprehensive HIV prevention.
Lessons learned: Between October 2022 and September 2024, 9,991 AGYW were enrolled in a digital literacy course, of which 9,946 completed the mandatory modules. Pre-test scores of less than 40% and post-test scores of >95% demonstrated significant improvements (48% - 59% performance growth) in digital skills, including computer literacy, internet navigation, online communication, content creation and economic empowerment through online job opportunities, freelancing, and entrepreneurship among the 9,946 beneficiaries. The gained skills resulted in 486 (9.7%) AGYW securing internships and job placements out of the 4,996 enrolled in Tier 1 and 2 (school drop outs and school leavers) whilst 7,156 (71.9%) AGYW enrolled in all 4 Tiers embarked on self-employment, utilizing digital skills to advertise their different products and services, including tailoring, hair dressing and cosmetics, and online selling of both imported and local cosmetic products.
Conclusions/Next steps: In the era of digital advancement, digital literacy has the ability to economically empower AGYW as part of comprehensive HIV prevention.
This empowerment has the potential to reduce their risk of HIV acquisition through non-engagement in transactional sex as a source of livelihood. Further analysis is required to assess how economic empowerment has reduced their vulnerability to HIV acquisition.

Integration of HIV services with other health and support services

TUPEE139

Interruption in treatment (IIT) patterns among clients on antiretroviral therapy (ART) in the wake of enhanced person-centered interventions: the case for the USAID DISCOVER-Health Project in Zambia

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Background: Interruptions in treatment (IIT) among clients on antiretroviral treatment (ART) can undermine the benefits of HIV treatment programs. Treatment interruption reduces the immunological benefit of ART and increases AIDS-related mortality and HIV transmission. There are many causes for IIT, including fear of stigma and difficulties in getting to the facility for re-fills. JSI, through the USAID DISCOVER-Health Project, supports the Zambian Ministry of Health in providing ART in 195 facilities, and is working to reduce IIT through combination person-centered interventions, to improve health outcomes for clients.
Description: The project structured ART services around client needs and had employed person centered strategies to keep people in care and on treatment. Such strat-

egies included issuing appointment reminders, same-day tracking in case of missed appointments, the scale up of various differentiated service delivery models (6 multi-month dispensing, community drug delivery, after-hours and weekend clinics), all within the case-manager model framework; whereby specific and skilled community-based volunteers are assigned clients to support.

Lessons learned: Between October 2022 - September 2024, the volume of clients on ART increased from 65,217 to 80,339. Within the same period of time, the IIT rate has gradually reduced from 10 clients per 1,000 active clients to 3 per 1,000 active clients. At the national level, the same IIT rate went from 19 clients per 1,000 active clients to 22 IIT per 1,000 active clients.

During the same time period, the death rate for project clients on ART has reduced from 2.8% to 2.4%, compared to the national rates of 1.5% to 1.3% respectively.

Conclusions/Next steps: The combination of person-centered interventions are effective at reducing IIT. Applying multiple tailored strategies designed to address peoples' lived experiences, and align with the treatment context, does appear to make a considerable difference in treatment interruption patterns, especially over the course of years.

TUPEE140

Person-centric models for HIV and mental health care integration: evaluating horizontal service delivery for HIV positive people who inject drugs in Abuja, Nigeria

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Background: HIV-positive people who inject drugs in Nigeria face a dual burden of drug use and mental health disorders, which exacerbates their vulnerability and complicates their healthcare needs. The injection of harmful drugs leads to poor adherence to antiretroviral therapy and worsened mental health outcomes.

This study assessed the impact of integrating HIV and mental health services for HIV positive people who inject drugs, with a focus on person-centered approaches, to inform better healthcare practices and policies

Methods: This study adopted a cross-sectional design to obtain responses from 92 randomly sampled HIV positive people who inject drugs in Abuja, Nigeria in January 2025 using a validated 36-item questionnaire from two secondary healthcare facilities. Their access to services, experiences with integrated care, barriers, challenges and future perspectives were assessed. Descriptive and inferential analyses were used to summarize the study's findings. Ethical approval was obtained from the Institutional review board.

Results: A total of 69 HIV-positive people who inject drugs responded to the questionnaire (76.7% response rate) with 28 (40.6%) having injected drugs for 1–5 years and 25 (89.3%) of them experiencing stigma due to their positive HIV status (*p=0.024*). Over half 36 (52.2%), are aware of integrated HIV and mental health services in their community and 59(85.5%) feel that combining HIV and mental health services would improve treatment outcomes.

The majority, 61 (88.4%), believe that integrated care improves their overall health and well-being and 26 (37.7%) experienced reduction in stigma or discrimination since accessing integrated care. Also, 63 (91.3%) believe integrated care can improve their ability to stick to treatment regimens. Most, 52 (75.4%) feel that healthcare workers are not adequately trained to provide integrated care.

Conclusions: The majority of HIV-positive people who inject drugs reported improved health outcomes, reduced stigma, and better treatment adherence with integrated care models. However, our findings highlight the need for enhanced training of healthcare workers to address the unique challenges of delivering person-centered, integrated care.

Stakeholders should ensure resources are focused on improving healthcare worker training to effectively address the unique challenges associated with providing person-centered, integrated care and advocate for policy shifts toward scalable and sustainable horizontal service delivery approaches for this vulnerable population.

Innovations in data collection, monitoring and evaluation

TUPEE141

A retrieval-augmented generation (RAG) AI Chartbot to improve HIV programme coordination and decision support

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Background: HIV programme coordinators and health officials face challenges in using data for decision making due to limited time, data access, and technical ability. AI has emerged as a useful tool for facilitating access to data, navigating large data sources, and identifying actionable insights.

Description: We leveraged an existing HIV data pipeline and web-based dashboard in Malawi which collates 20 programmatic data sources including tens of millions of data points spanning over 1,000 health facilities, dozens of disaggregates, and nearly a decade of data.

We developed a web-based chatbot service called "Chartbot" which leverages this data pipeline as a primary input. In order to respect privacy and ethical concerns, as well as regulatory requirements for data sharing and hosting, we do not directly link the data pipeline to commercially available large language models (LLMs). Instead, we utilize a retrieval-augmented generation (RAG) approach.

To further ensure security and avoid misuse or hallucinations, "Chartbot" responses are restricted to indicators and queries in the RAG data repository (i.e., a query related to malaria will return an error message). For a given query the contents are passed to an embeddings layer and then to the data pipeline to retrieve the relevant data.

With the summarized relevant data in hand, the LLM (ChatGPT, Claude, Gemini) then generates the relevant visualizations and insights without a need for the LLM to access, store, and potentially misuse the source data.

Lessons learned: We successfully developed a real world RAG-enabled LLM chatbot for interfacing with HIV data using nationally supported routine data systems. "Chartbot" reliably returns tables, graphs, and statistics from user queries. This can include a simple request of "show me the latest ART adherence rates for women in Blantyre" or more complicated requests such as "generate a line graph combining trends for the past five years for HIV test positivity and STI diagnoses in rural facilities".

"Chartbot" also handles sequential requests for adding data layers to visuals, modifying formatting, or even changing the language of labeling.

Conclusions/Next steps: RAG-enabled LLM chatbots can be utilized in real-world settings to enhance data access and use, while adhering to ethical, privacy, and regulatory requirements.

TUPEE142

Empowering community-based organizations through gamification for enhanced monitoring & evaluation capacity

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Background: Community-based organizations (CBOs) often face challenges in implementing effective Monitoring & Evaluation (M&E) frameworks due to technical complexities. These challenges hinder their ability to collect, interpret, and act on data critical for improving program outcomes in health services.

This initiative aimed to develop and test an innovative, gamified approach to M&E capacity building to simplify technical concepts, empower CBOs to take ownership of data processes, and enhance community-level interventions. Through transforming complex M&E processes into interactive, game-based activities, the initiative sought to build sustainable skills and promote a culture of continuous improvement.

Description: Conducted over six months across multiple communities in Gauteng, the initiative targeted CBOs engaged in health services. A gamified training model was developed using design thinking principles, focusing on core M&E competencies such as indicator selection, data flow, management, and reporting. Interactive role-playing and strategy games simulated real-world M&E scenarios, allowing participants to create hypothetical M&E plans and practice data collection and management. Game modules addressed practical challenges related to data cleaning, analysis, and tool development. Pre and post-training assessments measured improvements in M&E knowledge, skills, and confidence, while focus group discussions captured qualitative feedback on engagement, relevance, and scalability.

Lessons learned: The gamified approach led to a 41% improvement in participants' understanding and application of M&E concepts. Qualitative feedback highlighted high levels of engagement, with participants finding the gamified model approachable and practical. They reported increased confidence in applying newly acquired skills to enhance data collection, reporting, and evaluation within their programs. Hands-on exercises fostered a deeper understanding of M&E best practices, facilitating adaptation to diverse community contexts. CBOs demonstrated improved capacity to manage data independently and align programs with evidence-based planning.

Conclusions/Next steps: The gamified training model proved effective in building M&E capacity within CBOs, making complex technical concepts more accessible and engaging. This approach offers a scalable best practice for M&E capacity building, particularly in resource-limited settings.

Future efforts should focus on expanding the model to cover advanced topics such as adaptive management and real-time data analysis, further strengthening CBOs' ability to develop resilient, data-driven programs.

TUPEE143

Leveraging social network analysis to support epidemiological research on HIV prevention and case management

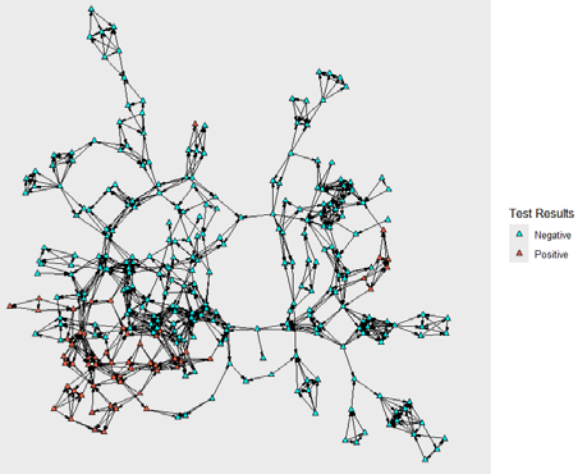
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Background: The global fight against HIV benefits from innovative strategies like Social Network Analysis (SNA), which can enhance prevention and case management. Leveraging Rwanda's Active Case-Based Surveillance (CBS) program data, initiated in 2018, this study applied SNA to understand HIV transmission dynamics nationwide. By characterizing HIV contact networks, identifying factors linked to higher HIV positivity yields, and assessing their impact on transmission, this research aimed to optimize HIV prevention and case management in Rwanda, potentially accelerating efforts to end HIV.

Methods: SNA was used to classify participants into distinct networks/clusters, with similarity measures applied to describe community structures. A multivariate model-

ing approach was used to assess the impact of demographic factors, risk behaviors and index-contact relationships on positivity yields.

Results: A total of 100,777 confirmed cases were tracked, leading to the identification of 191,731 contacts (contact to index ratio: 1.9), of which 8,485 tested positive (positivity yield: 4.4%). Network density was low at 2%, indicating sparse networks with distinct clusters. Key factors associated with higher HIV positivity were age, gender, diagnosis status, and relationship type. Those aged 25 and below had the highest odds of testing positive compared to older age groups (OR:0.64, CI:0.6-0.69 for 25-44, OR: 0.55, CI:0.5-0.61 for 45+). Contacts from male clients (OR: 1.55, CI:1.57-1.64) and contacts from newly diagnosed clients (OR: 2.51, CI:2.38-2.64) showed increased positivity odds. Relationship types strongly influenced transmission, with the highest odds among social network contacts (OR:9.78, CI:8.44-11.3), casual partners (OR:3.51, CI:3.1-3.97), and cohabiting relationships (OR: 5.87, CI:5.15-6.7). Networks sharing these risk factors exhibited higher transmission rates compared to others.



Conclusions: The study findings underscore the importance of considering demographic factors, client characteristics, and relationship dynamics when designing targeted HIV control strategies. By leveraging SNA techniques to identify high-risk clusters, public health interventions can be optimized to focus on the most vulnerable subgroups.

TUPEE144

Quality improvement initiative to improve HIV viral load sample collection and result documentation at Ingwizi Clinic, Mangwe District, Zimbabwe

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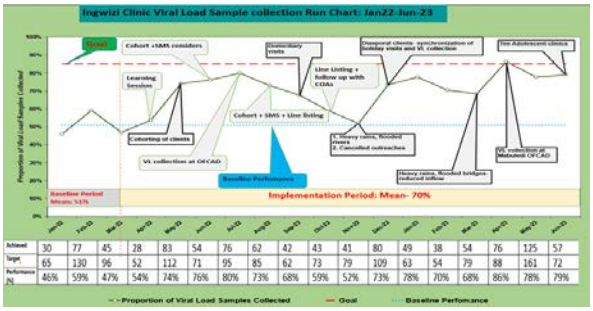
Background: Viral load (VL) monitoring is crucial for measuring antiretroviral therapy (ART) success and the goal is to surpass the 95% VL suppression by 2030. It's crucial to ensure timely VL sample collection, transportation, processing, issuing results and documentation. We observed that Ingwizi Rural Clinic in Mangwe District Zimbabwe had an annual VL sample collection coverage of 51% by April 2022, against an 80% national VL coverage target.

We designed a multi-pronged approach to VL sample collection quality improvement (QI) initiative aimed at improving VL sample collection to 85% by December 2023.

Description: Using the plan-do-study- act QI methodology, the district technical team and Ingwizi clinic staff created a multi-disciplinary team to identify the bottlenecks to VL sample collection and result documentation. All VL-related SOPs and guidelines were reviewed and adherence to. HIV positive clients on ART were reached through multiple strategies. These included line-listing eligible clients, creating calendar & village cohorts, sending SMS reminders, synchronizing VL sample collection with drug pick-up schedules, conducting domiciliary visits, leveraging off-clinic activity days for outreaches and addressing VL-related client concerns, myths & misconceptions.

Additionally, we tracked monthly VL sample collection coverage rates wall-pinned run charts and also iteratively identified areas for further refinement.

Lessons learned: Through systematic efforts, we improved VL sample collection rates significantly from 51% in April 2022 to 75% by June 2023. By 2024, Ingwizi VL coverage was 82% with suppression rates above 95%. Community VL collection strategies alone resulted in a 7% increase in VL sample collection rates, highlighting the value of tailored outreach efforts.



Conclusions/Next steps: This project underscores the effectiveness of targeted, client-centered approaches in improving healthcare outcomes in resource-limited settings. By addressing systemic barriers such as long travel distances, inconsistent client follow-up, and logistical constraints, we demonstrated that significant improvements in VL sample collection and ultimately VL coverage rates are achievable.

TUPEE145

Improving patient biometrics match outcomes in Cross River State: an implementation review on the deployment of Biometrics Confirmation Slip

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Background: The PEPFAR/USAID-funded ACE-5 project implemented the Patient Biometric Service (PBS) in line with national requirements to deduplicate and enhance medical records for people living with HIV (PLHIV). However, a review of PBS performance data in Cross River State, Nigeria identified low recapture rates and suboptimal fingerprint match outcomes.
This study describes the lessons learnt from implementing a quality improvement (QI) intervention to improve biometric recapture and match outcomes for PLHIV in Cross River State.
Description: The QI intervention was implemented using a Plan-Do-Study-Act cycle across all 64 project-supported ART facilities in Cross River. In the Plan phase, root cause analysis conducted for the cohort of PLHIV with fingerprint recapture as of March 2024 identified that ancillary staff conducting fingerprint recaptures could not accurately identify eligible clients, leading to repeat recaptures for clients with already matched prints. In the Do phase, a Biometrics Confirmation Slip (BCS) was developed and deployed in May 2024.
This was a checklist that required multi-level verification of client identity before fingerprint captured. This was integrated into routine service flow. Key healthcare staff were required to attest to the client's identity, sign on the checklist, as the client passed through each service delivery point.
Biometrics data (date of capture, date of recapture, and match outcome) for PLHIV aged ≥6 years were extracted from the National Data Repository and electronic medical records at the 64 facilities. Recapture rates (proportion of clients recaptured) and match rates (proportion of clients with matching capture and recapture prints) were compared before (January–April 2024) and after the intervention (May-August 2024).
Lessons learned: During the period, 14,441 PLHIV had their prints recaptured. Overall print recapture rate improved from 63.0%(21,906/34,747) to 99.0%(36,347/36,713) before and after the intervention respectively, and the match rate improved from 30.6% (6,710/21,906) to 95.0% (34,558/36,347) before and after the intervention respectively. Integrating the BCS with routine services facilitated its adoption by service providers, and the multi-level authentication process enabled accountability among healthcare staff.
Conclusions/Next steps: The introduction of multi-level systems to validate an implementation can effectively improve its outcomes. This approach is recommended for scale-up to other programs implementing PBS

TUPEE146

Deployment of SmartCare Pro (EHR) with biometric functionality in 2024 to address HIV duplicate healthcare records in Zambia

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Background: Duplicate HIV individual healthcare records pose a significant challenge in health systems, causing fragmented patient information, reduced efficiency, and compromise Recipient of Care (RoC) safety. In Zambia, approximately 120,052 duplicate records of People Living with HIV (PLHIV) exist from the previous electronic health record systems namely, SmartCare Legacy and SmartCare Plus. Lack of a unique historical recipient of care record contributed towards silent transfers among PLHIV, and an increasing number of lost to follow up (LTFU) RoCs. To address this, we deployed SmartCare Pro to 779 health facilities in April 2024 countrywide. SmartCare Pro is an advanced Electronic Health Record (EHR) system with integrated biometric functionality for unique identification of individuals.
Description: The deployment involved integration of biometric (fingerprint) scanners within the SmartCare Pro EHR system. This ensured that each recipient of care is assigned a unique biometric identifier which is consistently used across all health facilities. The system was initially piloted in 4 high volume health facilities before expanding to broader deployment across 779 health facilities.
To analyse uniqueness of records, a descriptive and de-duplication fuzzy matching analysis was conducted on 15,742 biometric registrations from. individual registrations that occurred between April 2024 and September 2024. Descriptive counts of all registrations, and their uniqueness was conducted.
Lessons learned: As of September 2024, 15,742 individuals in Zambia had their biometrics registered in Zambia and none were duplicated as a unique rate of 100% was attained after a deduplication analysis procedure. Health facilities reported enhanced accuracy in recipient of care identification and a more streamlined process for accessing recipient of care histories as recipients of care were uniquely identified using their fingerprints unlike searching by other identifiers, thus reducing the patient waittimes.
Conclusions/Next steps: The deployment revealed that integrating biometrics with the SmartCare Pro EHR system effectively addressed the issue of duplicate health-

care records by providing an accurate method for patient identification. It was further revealed that SmartCare Pro with biometric functionality has the potential to transform health information management. The biometric system improved data integrity, operational efficiency, and the reliability of records.

HIV pathogenesis

WEPEA006

Early-life systemic inflammation correlates with depression, while HIV-1 cell-associated DNA reflects neuroinflammation in young people living with perinatally acquired HIV

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Background: Adolescents with perinatally acquired HIV (PHIV) are at increased risk for depressive symptoms and neuroinflammation, despite early antiretroviral therapy (ART). Systemic inflammation during early life has been linked to depressive symptoms, while persistent HIV-1 reservoirs, measured by integrase cell-associated HIV-1 DNA (iCAD), may reflect neuroinflammation.
This study investigates longitudinal associations between early-life inflammatory biomarkers, iCAD levels, depressive symptoms, and neuroinflammation.
Methods: Thirty-nine adolescents with PHIV (56% female) from the Children with HIV Early Antiretroviral Therapy (CHER) trial in Cape Town, South Africa, were included. Median age was 16.0 years (IQR: 15.0–16.0), with 89.4% achieving virological suppression.
Depressive symptoms were assessed at age 16 using the nine-item Patient Health Questionnaire (PHQ-9). Plasma inflammatory biomarkers (41 total) were quantified via ELISA and Luminex™ at six time points: pre-ART (n=20), 1 year post-ART (n=14), 2 years post-ART (n=13), 3–4 years post-ART, 4–5 years post-ART, and at age 8 years (n=36).
Neuroinflammatory biomarkers were measured at age 16. iCAD levels were measured pre-ART, post-ART, and at age 8. Correlations between biomarkers, iCAD, and PHQ-9 scores were analysed using Pearson and Spearman rank coefficients.
Results: PHQ-9 scores at age 16 were significantly correlated with pre-ART concentrations of high-sensitivity C-reactive protein (hsCRP) (ρ = 0.56, p=0.008), MCP-1/CCL2 at 1 year post-ART (ρ = -0.56, p = 0.036), and soluble CD163 at 2 years post-ART (ρ = -0.59, p=0.033). A moderate, non-significant correlation was observed between PHQ-9 scores at age 16 and hsCRP levels at 1 year post-ART (ρ = -0.50, p=0.084). None of the other inflammatory biomarkers were significantly associated with PHQ-9 scores at age 16 (all p>0.05). At age 16, YKL-40 concentrations, a marker of neuroinflammation, were significantly associated with pre-ART iCAD levels (ρ = 0.91, p=0.03), suggesting a potential link between HIV-1 reservoirs and neuroinflammatory pathways.
Conclusions: This study highlights the roles of early-life inflammation and HIV-1 reservoirs in adolescent mental health and neuroinflammation. Pre-ART hsCRP and post-ART immune markers were linked to depressive symptoms, while iCAD correlated with YKL-40.
These findings underscore the need for longitudinal studies integrating viral persistence, neuroinflammation, and mental health to inform targeted interventions.

WEPEA007

Immunometabolism of innate lymphocytes in people living with HIV-1 versus HIV-2

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Background: HIV-2 displays an indolent clinical progression relative to HIV-1, including decreased T-cell activation and limited immune exhaustion. However, it remains unclear how different HIV types impact unconventional lymphocytes that mediate gut barrier defense and mucosal inflammation (including mucosal-associated invariant T-cells [MAIT], invariant natural killer T-cells [iNKT], and Vδ2+ T-cells).
We therefore investigated whether divergent clinical course of HIV-1 and HIV-2 is associated with altered gut-homing potential, mitochondrial profiles, and exhaustion of unconventional lymphocytes.
Methods: PBMCs from people with HIV-1 (n=7) and HIV-2 (n=7) were analysed by 28 colour flow-cytometry. MAIT, iNKT, and Vδ2+ subsets were assessed to determine cell frequency and expression of exhaustion markers (PD1, TIGIT), mitochondrial function (MTG, TMRM) and gut homing potential (α4β7,CD69).
Results: Both cohorts were virally suppressed (VL<50 c/mL) and ART adherent (clinical demographics are summarized in table 1.)
iNKT frequency did not differ between cohorts (p=0.7). HIV-1 was associated with increased MAIT cell frequency (p<0.02) and expression of TIGIT (p<0.02) relative to HIV-2, although the mitochondrial profile of MAIT cells was comparable between HIV cohorts (p=0.4).
Circulating Vδ2+ frequency was higher (p<0.03) in HIV-1 than in HIV-2, but gut-homing potential (p<0.02) and mitochondrial activity (p<0.03) were elevated in HIV-2 relative to HIV-1.

		HIV-1	HIV-2
Median Age (IQR)		42 (36-50)	39 (34-45)
Sex		4/7 female	6/7 female
Ethnicity		4/7 Black-African, 3/7 Caucasian	7/7 Black-African
Median CD4 (cells/µl) (IQR)		680 (580-909)	670 (434-760)
Median CD8 (cells/µl) (IQR)		964 (488-1196)	752 (584-1166)
Median % of overall lymphocyte population (95%CI)	iNKT	0.02 (0.01-0.02)	0.01 (0.007-0.01)
	MAIT	0.57 (0.32-1.9)	0.26 (0.24-0.36)
	Vδ2+	0.7 (0.62-1.2)	0.42 (0.21-1.18)

Conclusions: Preliminary analysis suggests that blood MAIT and Vδ2+ T-cell frequencies are higher in HIV-1 than in HIV-2, but gut-homing potential and mitochondrial function of Vδ2+ cells are elevated in HIV-2. These data suggest that the innate lymphocyte pool is differentially impacted by HIV types, which may influence gut reservoir size and clinical course of infection.
Future work will assess additional markers of mitochondrial function including mtDNA copy number, ROS generation, and cellular respiration.

Host immune responses

WEPEA008

HIV-associated chronic inflammation and intestinal injury do not mediate reduced transplacental transfer of anti-enterovirus antibodies in pregnant women with HIV

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Background: The efficient transfer of protective antibodies from mother to child during pregnancy is crucial for infant immunity during early life. However, the efficiency of transplacental antibody transfer has been shown to be reduced in HIV-positive women for common childhood infections such as enteroviruses, respiratory syncytial virus (RSV), and cytomegalovirus (CMV), though the underlying mechanisms remain unclear.
We hypothesize that HIV-associated inflammation, induced by intestinal injury, may contribute to this reduced transfer. This study aims to investigate the role of HIV-associated inflammation, driven by gut injury, in the reduced transplacental transfer of antibodies to enteroviruses, RSV, and CMV among virally suppressed pregnant women living with HIV at delivery, addressing conflicting findings in the literature.
Methods: We sampled 107 HIV-positive and 103 HIV-negative mothers during their third trimester of pregnancy. Antibody transfer to RSV, CMV, and enteroviruses was assessed in maternal-cord dyads. Markers of inflammation (sCD14) and gut injury (iFABP) were quantified using enzyme-linked immunosorbent assay (ELISA). Statistical significance was set at P<0.05
Results: All pregnant women living with HIV (PWHIV) were on antiretroviral therapy. Compared to HIV-negative mothers, PWHIV were older (P<0.001P < 0.001P<0.001), had higher levels of intestinal injury (P=0.0037) and chronic inflammation (P<0.0001), and delivered earlier (P=0.039). Cord blood antibody levels to enteroviruses were significantly lower in HIV-exposed neonates (P=0.0078).
However, there was no significant correlation between markers of intestinal injury or inflammation and reduced antibody transfer among PWHIV.
Conclusions: Our findings indicate reduced transplacental transfer of anti-enterovirus antibodies in HIV-exposed neonates, while transfer for RSV and CMV antibodies remained normal.
The observed reduction in cord antibody levels did not correlate with intestinal injury or chronic inflammation in mothers living with HIV.

WEPEA009

Trained immunity underlies persistent inflammation in PLWH

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Background: Persistent inflammation drives HIV-associated comorbidities, including cardiovascular and neurocognitive disorders. Despite antiretroviral therapy (ART) suppressing HIV replication, chronic inflammation persists in people living with HIV (PLWH), with its mechanisms remaining poorly understood. We proposed that persistent inflammation in PLWH may stem from innate immune cells retaining a memory of their initial encounter with HIV.
This hypothesis is supported by our findings that extracellular vesicles (EVs) carrying the HIV-1 protein Nef induce a memory-like phenotype in myeloid cells, leading to hyperresponsiveness to inflammatory stimuli—a phenomenon akin to *trained immunity*. Trained immunity involves epigenetic changes, such as chromatin opening in genes linked to inflammation, cholesterol metabolism, and oxidative glycolysis.
Methods: In this study, we investigated trained immunity in cells from PLWH and mice injected with Nef EVs. Monocytes from PLWH and uninfected controls were analyzed for cytokine production after TLR agonist stimulation. Microglial cells from brain samples and bone marrow cells from mice were examined using ATAC-seq and RNA-seq.
Results: Monocytes from PLWH produced significantly higher levels of pro-inflammatory cytokines (IL-6, TNFα, and IL-1β) than those from uninfected controls, indicat-

ing a pro-inflammatory state consistent with trained immunity. Monocyte-derived macrophages (MDMs) from PLWH, particularly in males, showed heightened cytokine responses to TLR ligands, suggesting sex-specific differences. ATAC-seq revealed chromatin opening in promoters of inflammation- and cholesterol metabolism-related genes, mirroring changes in Nef EV-treated MDMs.
Similarly, bone marrow myeloid precursor cells from mice injected with Nef EVs exhibited activation of these genes and pathways compared to controls.
Conclusions: These findings underscore trained immunity as a key driver of persistent inflammation in PLWH. Importantly, they suggest that even complete HIV provirus elimination—through advanced therapies like CRISPR—may not resolve chronic inflammation or its comorbidities, as inflammatory memory persists in bone marrow progenitor cells.
This highlights the need to address trained immunity in HIV cure strategies. These insights highlight the need to consider and address trained immunity in the development of HIV cure strategies.

WEPEA010

HIV-1 broadly neutralizing antibodies in treatment naïve and long-term virologic failure populations from Tanzania where multiple subtypes co-circulate

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Background: Various Env immunogen designs have failed to sufficiently elicit HIV-1 broadly neutralizing antibodies (bNAbs), in part, due to an incomplete understanding of the Env characteristics and antigen stimulation dynamics necessary for bNAb development in natural disease progression. Hence, we investigated optimal viral stimulation conditions for bNAb development by screening treatment naïve and virologic failure participants, and analyzed their Env gene sequences.
Methods: We enrolled treatment naïve (n = 230) and virologic failure (n = 167) Tanzanians, with the latter being viremic for ≥ 2 years without treatment regimen changes. We pre-screened plasma cross-neutralization using 2 pseudoviruses expressing subtype B (JRFL) and AC (246F3) Envs. Virologic failure plasmas were pre-screened by drug resistant pseudoviruses. Cross-neutralizers from both groups had their polyclonal IgG purified and neutralization signatures determined on a panel of 12 globally representative Envs, whereby neutralizers of ≥ 5 Envs were classified as bNAb elicitors. Envs were sequenced from plasma virions and cytokines quantified by a multiplex assay.
Results: Virologic failure participants, relative to their treatment naïve counterparts, had fewer bNAb elicitors (1.2% vs 6%) and narrower IgG breadths (p = 0.03). Cumulatively, IgG potency correlated with plasma IL-21 (r = 0.53, p = 0.01). A follow-up of 4 treatment naïve bNAb elicitors after 3 years of suppressive treatment revealed stunted breadth development and a marginal decline in bNAb potency.
Analyzing Env sequences showed that the V1 region amino acid length was a strong predictor of IgG breadth, albeit restricted to subtype A1 participants. Further, we generated Env clones from a subtype A1 elite neutralizer (100% breadth) with multiple mutations at known bNAb epitopes within the V1, V2, V3, and CD4-binding site regions.
The mutations mediated escape from neutralization by monoclonal bNAbs including PG16, PGT 128, and VRC01, suggesting the presence of multiple bNAb lineages in this participant, as portrayed by extensive viral diversification in regions flanking the known bNAb epitopes, following an extended analysis of ancestral clones from proviral DNA.
Conclusions: Maintaining high antigenic stimulation has potential to elicit potent bNAbs with moderate durability after antigen suppression. Env immunogens targeting to elicit multiple bNAb lineages could result in highly potent bNAbs.

Understanding and targeting persistent HIV reservoirs

WEPEA011

Methylseleninic acid enhances HIV reactivation induced by other latency reversing agents

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Background: Reversal of HIV latency is one strategy being investigated to reduce the HIV reservoir in people living with HIV (PLWH) on antiretroviral therapy (ART). We explored whether the organic selenium compound Methylseleninic acid (MSA), an activator of transcription of the transcription factor BMAL-1 that drives HIV long terminal repeat (LTR) mediated viral transcription, could synergise with other known latency reversing agents (LRA).
Methods: CD4+ T-cells isolated from peripheral blood mononuclear cells from PLWH on ART were cultured with MSA alone, or in combination with the SMAC mimetic, AZD5582; bromodomain inhibitor, JQ1; or protein kinase C (PKC) agonist, PEP005 for 48 hours. Cell associated HIV RNA

was quantified by digital PCR targeting transcript initiation (TAR), elongation (Long LTR, Pol), completion (PolyA) and splicing (Tat/Rev; n=7-8). Synergism between MSA and other LRAs was determined by Bliss model of independence, where scores (excess over bliss score; EOB) greater than zero indicate synergy.

Results: Compared to vehicle control, all compounds alone and in combination increased TAR, Long LTR, and Pol, PolyA and Tat/Rev transcripts (Fig1) in CD4+ T-cells from PLWH. MSA in combination with AZD5582 showed greater upregulation of PolyA (mean fold change [MFC]=20.6) and Tat/Rev (MFC=15.4) transcripts, with high synergism in the induction of Tat/Rev (EOB = 11.6).

The largest increases were seen in PolyA (MFC=115.8) and Tat/Rev (MFC=170.4) expression after combination treatment of MSA and PEP005, demonstrating high synergism in the expression of Tat/Rev mean (EOB = 36.0). We observed minimal toxicity across conditions.

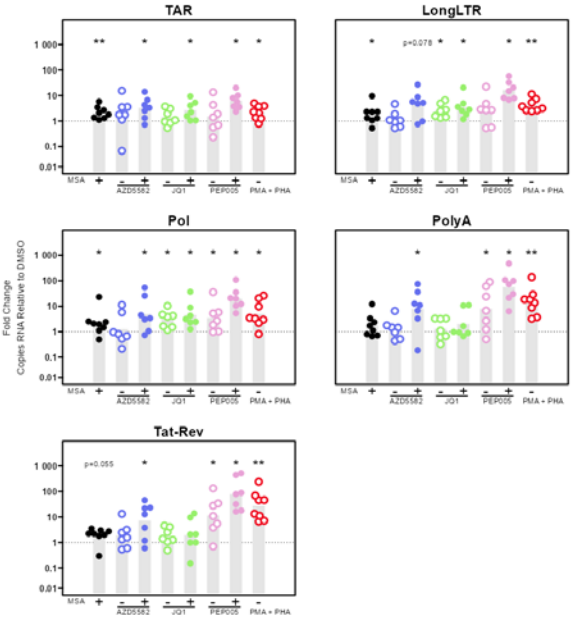


Fig1-MSA enhances LRA induced expression of cell associated HIV RNA transcripts. Mean fold change cf.Vehicle control, mean depicted by grey bar. Wilcoxon Signed rank test, *p<0.05, **p<0.01; n=7-8 donors.

Conclusions: MSA synergised with SMACm AZD5582 and PKC agonist PEP005, enhancing latency reversal in primary CD4+ T-cells from PLWH. MSA represents a novel approach to enhance latency reversal.

WEPEA012

Harnessing HOPE transplants to open a novel cure pipeline - collaboration between the bench and the HIV bedside

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Background: Lymph nodes (LN) are a major tissue reservoirs where latent HIV persists in CD4 T cells. Access to these tissues in virologically suppressed individuals is traditionally limited, with open biopsy subject to complications and scarring, and fine needle aspirates producing insufficient cell recovery. People living with HIV (PLWH) suffer from increased rates of chronic organ failure, yet with ongoing expansion of the organ donor pool through the HOPE Act, more PLWH are undergoing transplantation. Organ transplantation typically requires the resection of native lymphoid tissue as part of surgical technique, tissue which would be otherwise be discarded. Surgically resected deep lymphoid tissue can be collected to analyze the reservoir size in PLWH and to define transcriptional changes and impact of latency reversing agents (LRAs) on the tissue resident cells. The results of these analyses can inform future efforts to target and eliminate cells harboring HIV.

Methods: PLWH undergoing solid organ transplant were identified in Infectious Diseases Clinic at Duke University. Over a 5 year period, LNs from 24 PLWH were collected during transplantation of heart (1), lungs (3), kidney (17), liver (2), or combined heart/lung (1). Lymph nodes were manually dissected and washed with media prior to Ficoll separation if cell count was over 50 million, then cryopreserved and stored.

Results: The 24 surgeries collected a median 40.9 million LN cells. Mean initial viability was 86.6% (ranged 40.7-99.6%) or 95.4% if samples not processed via Ficoll were excluded. Total viable cell counts were notably higher from LNs collected during lung or heart/lung transplants (avg yield= 567 million) compared to heart, liver or kidney transplants (avg yield= 48 million).

Upon thaw, LN retained viability over 82% (range 82-94.5%), acceptable for scRNA gene analysis. Quantitative viral outgrowth assay revealed a burden of latently infected cells ranging from less that 0.2 - 18.2 IUPM.

Conclusions: HOPE Act transplantation is an opportunity to partner with PLWH to foster the collection of lymph nodes obtained during solid organ transplant. It represents a high yield source for deep lymphatic tissue that is extremely viable at time of freeze and thaw, and can help evaluate strategies to target the lymphoid reservoir.

WEPEA013

Concurrent tuberculosis promotes the persistence of genetically-intact HIV in people living with HIV

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Background: The persistence of HIV-infected cells containing replication-competent virus remains the primary obstacle in achieving HIV cure. *Mycobacterium tuberculosis* (Mtb), which causes tuberculosis (TB), is the most common confection among people living with HIV (PLWH) but the impact of TB on the immune response to HIV and the persistent HIV reservoir, is poorly understood.

To address this, we studied the effect of Mtb/HIV coinfection on the persistence of cells infected with genetically-intact HIV.

Additionally, we used therapeutically aspirated pleural effusions (TB-PE) from persons living with TB/HIV to analyse the impact of the TB microenvironment on both HIV persistence and the functionality of HIV-specific CD8+ T-cells.

Methods: We used full-length individual proviral sequencing (FLIPS) to quantify the frequency of genetically-intact HIV in peripheral blood mononuclear cells (PBMCs) from 4 PLWH (75% assigned female at birth [AFAB]) and 4 individuals with TB/HIV (25% AFAB) living in Argentina. In one participant with TB/HIV, mononuclear cells from TB-PE (PEMCs) and PBMCs were also sequenced using FLIPS.

To evaluate the effect of the TB microenvironment on HIV-specific cytotoxicity, CD8+ T-cells from 4 PLWH were cocultured with autologous HIV-infected CD4+ T-cells in the presence or absence of TB-PE. Moreover, the impact of TB-PE on the transcriptome of CD8+ T-cells was characterized by bulk RNAseq in cells from 3 healthy donors.

Results: Our analyses revealed a 2.1-fold increase in the frequency of cells infected with genetically-intact HIV in individuals with TB/HIV coinfection compared to PLWH. Notably, within the individual with TB/HIV, PEMCs exhibited a 15.6 fold increase of intact HIV-infected cells compared to PBMCs.

Interestingly, CD8+ T-cells exposed to TB-PE demonstrated a significantly diminished capacity to eliminate HIV-infected cells (p=0.0021). Transcriptomic analysis revealed TB-PE downregulated pathways related to T-cell activation and inflammatory responses.

Conclusions: This study reveals the TB-associated microenvironment hampers CD8+ T-cell-mediated HIV control, which promotes genetically-intact HIV at the site of coinfection. This impaired cytotoxic response likely contributes to the persistence of the viral reservoir in blood of individuals with TB/HIV coinfection.

Our study highlights the significant challenge that concurrent TB poses to HIV curative strategies and underscores the critical need for targeted interventions for individuals living with TB/HIV.

Novel treatment and prevention strategies, vaccines and immunotherapies

WEPEA014

HLA-E restricted RL9 and KF11-specific CD8+ T cells detected in acutely HIV-acquired people with HIV using novel multimer synthesis protocol

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Background: HLA-E restricted CD8+ T cells have been underexplored in HIV research, with only two reported epitopes, both of which are also restricted by classical HLA-I alleles. We postulated that the apparent rarity of these cells might be due to many HLA-E binding peptides exhibiting low affinity.

Methods: To investigate this, we assessed the HLA-E stabilization potential of 180 predicted T cell epitope (PTE) 15-mers derived from HIV-1 Gag in HLA-E01:01 and HLA-E01:03 cell lines. Using the well-characterized high-affinity RL9 epitope, we developed tetramers employing a refined peptide exchange and multimer staining protocol. To enhance the detection of low-affinity interactions, we also created high-valency HLA-E KF11 dextramers.

Results: Tetramers based on the RL9 epitope identified responses in 4 of 19 participants (26.7%) during acute HIV acquisition, notably including the only probable elite controller. High-valency HLA-E KF11 dextramers successfully detected low-affinity interactions, identifying HLA-E restricted KF11-specific CD8+ T cells in chronically acquired PWH that tetramers did not detect *(Figure 2)*.

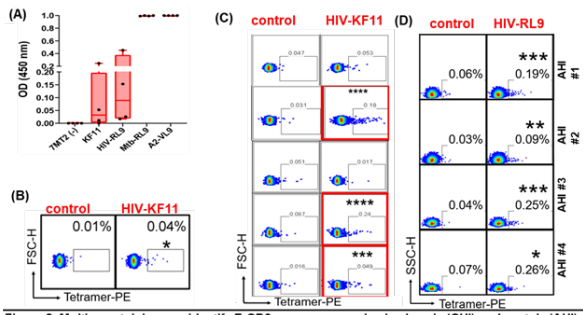


Figure 2: Multimer staining can identify E-CD8 responses ex-vivo in chronic (CHI) and acutely (AHI) HIV-acquired PWH. (A) Barplot of peptide exchange rate of indicated peptides for HLA-E*01:01 monomer preloaded with VMAPJTLVL peptide (7MT2) in an ELISA assay. Data for KF11 and RL9 is shown in relation to positive controls (Mtb-RL9 and A2-VL9 peptides). **(B)** KF11 loaded monomer was tetramerized and used to ex-vivo detect E-CD8s in an elite controller. **(C)** KF11 loaded monomer was dextramerized and the sensitivity and specificity tested in the same elite controller as in **(B)** in relation to a person living without HIV (PWO). Significance (* and **** are $p < 0.05$ and 0.0001 respectively) based on Fischer's exact T test between counts of parent and child response gate between indicated condition and control. **(D)** Tetramer staining of RL9 specific E-CD8 responses ex-vivo in people with acute HIV acquisition (AHI). Data is shown for all 4 tetramer+ HLA-A*02 individuals. Significance based on Fischer's exact T test between HIV-RL9 and the negative control is shown (*, **, *** are p-values of < 0.05, 0.01, 0.001 respectively).

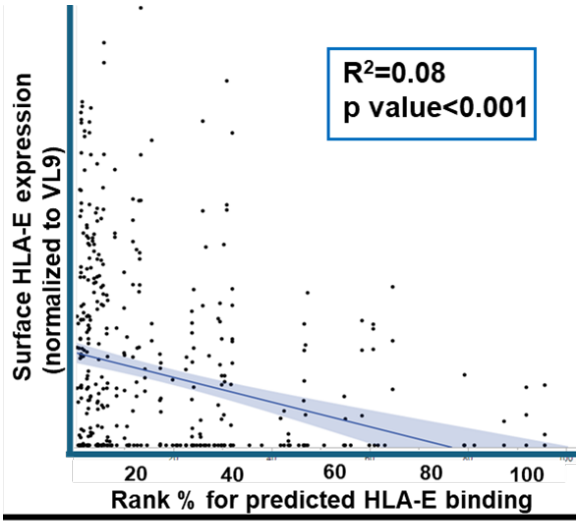


Figure 1. Use of high throughput HLA-E stabilization assay can identify potential candidate HIV peptides predicted to bind HLA-E. Correlation plot data is shown for Gag peptides for their binding to HLA-E*01:03. Scatter plot of 3 replicates each of HLA-E stabilization for 180 predicted T cell epitope (PTE) peptides (15 mers) normalized between no peptide (0% VL9) and A*02-VL9 (100% VL9). Normalized %VL9 α-E*01-APC (3D12 clone) stabilization over no peptide values post overnight 26°C pulse are shown on Y-axis against the rank percentile for the highest predicted binding epitope (9-14-mer) among all epitopes predicted to bind to E*03 through Net-MHC on X axis. Inverse correlation (lower percentile number indicates tighter binding) is represented as a line.

These findings demonstrate that HLA-E restricted CD8+ T cell responses are primed early during HIV-1 acquisition and are more prevalent than previously recognized.

Over 10 peptides were found to stabilize HLA-E, though typically at lower levels compared to the high-affinity RL9 epitope *(Figure 1)*.

Conclusions: Our work underscores the previously underappreciated prevalence and functional importance of HIV-specific HLA-E restricted CD8+ T cells.

WEPEA015

Detection of hepatitis B virus in cerebrospinal fluid of people living with HIV-associated cryptococcal meningitis in Botswana

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Background: Concomitant hepatitis B virus/human immunodeficiency virus (HBV/HIV) accelerates HBV disease progression. HBV is mainly hepatotropic but may establish distinct populations in non-hepatic sites, including within central nervous system (CNS) cell lines or white cells. This may serve as a reservoir, particularly in people living with concomitant HBV/HIV, contributing to HBV persistence.

This study investigates HBV presence in cerebrospinal fluid (CSF) of people living with HIV (PLWH) with cryptococcal meningitis (CM) in Botswana.

Methods: Baseline samples (N=85) from the AMBITION-cm study which enrolled PWH with CM aged 18 years or older in Botswana between 2018-2021 were utilized. We screened for hepatitis B surface antigen (HBsAg) and quantified HBV viral load (VL).

We compared HBV VL using the Wilcoxon rank-sum test between CSF and plasma. We estimated proportions with HBsAg and HBV DNA using binomial exact method and compared the prevalence of occult hepatitis B (HBsAg- & HBV DNA+) using the Fisher's Exact Test. We determined the association between HBsAg in CSF by demographics (sex, age, mental status, mortality) using Fisher's exact test. P-values < 0.05 implied statistical significance.

Results: Most participants were male 70% (59/85) with a mean age of 39 ± 8 years. The median HIV CD4 count was 30 cells/μL (IQR: 9–63). HBsAg was screened on 81% (69/85) CSF samples and 77% (65/85) plasma samples. HBsAg prevalence in CSF was 18.8% (13/69) (95% CI 11-30) than in plasma was 29.2% (19/65) (95%CI:20-41) (p=0.2). HBV positivity in CSF was not associated with age or sex. Among the 13 HBsAg positive CSF samples, 23.1% (3/13) tested negative in plasma.

Occult Hepatitis B prevalence was 1.8% (1/56) (95%CI:0.3-9.5) in CSF compared to 23.9% (11/46) (95%CI:14-38) in plasma, (p=0.001). Only 5 CSF samples had quantifiable HBV

DNA. The median HBV VL was 3.5 log copies/mL (IQR: 1.3-4.2) compared to 5.3 log copies/mL (IQR: 3.2-8.2) in their plasma pairs (p=0.06).
Conclusions: HBsAg and HBV DNA is detectable in CSF of PLWH with CM, suggesting the CNS as a potential reservoir for HBV replication. Further investigation into the impact of HBV compartmentalization on neurological outcomes, treatment response and HBV evolution is warranted.

WEPEA016

Novel approach for the simultaneous prevention of HIV and *Mtb* infection

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Background: Tuberculosis (TB) is the cause of 1 in 4 HIV-related deaths. Therefore, there is an unmet need to establish treatments that can simultaneously prevent HIV and/or TB infections. Long-acting (LA) drug formulations are advantageous because they require infrequent administration, reduce pill burden and associated stigma, allow enhanced bioavailability, and improve patient adherence.
Here, we evaluated the pharmacokinetics (PK) of an LA cabotegravir (CAB) formulation co-administered with an LA rifabutin (RFB) formulation.
Methods: BALB/c mice received a subcutaneous injection of either:
1. LA RFB [mean RFB concentration: 1,205 mg/kg] (n=5),
2. LA CAB [mean CAB concentration: 461 mg/kg] (n=5), or;
3. Two injections – one injection of LA RFB [mean RFB concentration: 1129 mg/kg], and one injection of LA CAB [mean CAB concentration: 489 mg/kg] (n=5).
Serum was obtained from mice at 3, 7, 14, 21, 28, 42, and 59-days post drug administration for PK analysis. Drug levels in tissues (lung, liver, kidney, spleen, and brain) were analyzed 59 days post drug administration. Liquid chromatography tandem mass spectrometry was used to quantitate drug concentrations in serum and tissues.
Results: Individual formulations resulted in sustained levels of RFB and CAB in serum (mean AUC: 56,860 ng/mL· day and 2,288,761 ng/mL· day, respectively) over 59 days. There were no statistical differences in serum RFB and CAB concentrations when both formulations were injected into the same animals (mean AUC: 23,918 ng/mL· day and 3,461,534 ng/mL· day respectively, p = 0.0556). Whereas there was no statistical difference in the tissue levels of RFB in animals also receiving CAB, we noted higher CAB concentration in the lung (p < 0.016), kidney (p = 0.016), and brain (p = 0.032) of mice that received both LA RFB and LA CAB.
Conclusions: Co-administration of LA RFB and LA CAB does not alter the individual drug concentrations in serum. Additionally, administration of RFB did not result in lower levels of CAB in tissues. Rather in animals that also received LA RFB, we found higher concentrations of CAB in lung, kidney, and brain.
Our results demonstrate that the co-administration of LA RFB and LA CAB is a promising avenue for HIV and *Mtb* prevention.

Course of HIV disease

WEPEB017

Advanced HIV disease diagnosis and other predictors of treatment outcomes among newly-diagnosed people living with HIV in Oyo State, Nigeria

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Background: Despite the increasing number of people living with HIV (PLWH) being placed on effective antiretroviral therapy (ART), data has shown that HIV-related deaths are not declining as expected. Advanced HIV disease (AHD) has been linked to increased mortality and morbidity among PLWH. AHD is defined as CD4+ lymphocytes less than 200/mm3 or WHO Stage 3 or 4 for PLWH aged five years and above. This study aimed to assess AHD diagnosis and other predictors of treatment outcomes among newly diagnosed PLWHs in this age group in Oyo State.
Methods: We conducted a data review of newly-diagnosed PLWH aged ≥5 years on ART between October 2021 and September 2023 who were screened for AHD using the CD4 count or the WHO clinical staging or both in the comprehensive ART sites in Oyo State. Treatment outcomes were assessed in September 2024. Client-level data were extracted from the electronic medical record and analyzed using SPSS. We considered viral suppression and clients being alive after one year as favorable treatment outcomes. AHD diagnosis and other predictors of treatment outcomes were examined using a multivariate logistic regression.
Results: Fifteen thousand, one hundred and twenty-nine participants were enrolled in the study. The mean age of participants was 38 years (SD-11.4), and the majority were female (66%, n = 9,908). The AHD diagnosis rate among participants was 21.9% (3,309 of 15,129). AHD diagnosis did not predict viral suppression among participants (OR 1.11; 95%CI: 0.86- 1.44). However, age, marital status, and job status were found to be associated with viral suppression. Clients who were diagnosed with AHD (OR 0.47; 95%CI: 0.38-0.59) were less likely to be alive after one year of commencement of ART than those who were not AHD diagnosed.
Conclusions: There was a poor survival rate as a treatment outcome among AHD-diagnosed clients compared to non-AHD-diagnosed clients. This is despite receiving the WHO-recommended package of care provided for AHD-diagnosed clients. Prevention of new acquisitions

and early diagnosis and treatment are still the most effective ways of reducing morbidity and mortality associated with HIV. Governments, funders, and other stakeholders must actively and continuously support these.

Cure interventions and other strategies and therapies

WEPEB018

Vesatolimod pharmacodynamic responses in a trial of vesatolimod and broadly neutralizing antibodies in early-treated South African women with clade C HIV-1

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Background: Vesatolimod (VES), an oral Toll-like receptor-7 (TLR7) agonist, has been shown to upregulate interferon-alpha (IFNα) and interferon-stimulated genes (ISGs). However, VES pharmacodynamic responses in women have not been extensively assessed.
We investigated VES pharmacodynamic responses and associations with analytical treatment interruption (ATI) outcomes in an open-label study of VES combined with 2 broadly neutralizing antibodies (bNAbs), VRC07-523LS and CAP256V2LS, in virologically suppressed (VS) women with clade C HIV-1 (NCT05281510).
Methods: This study enrolled 20 acutely treated VS Black women (age ≥18 years, antiretroviral therapy [ART] for ≥12 months) from the Females Rising through Education, Support, and Health (FRESH) cohort in South Africa. Participants received up to 10 doses of VES (6 mg for 2 doses, up to 8 mg thereafter) every 2 weeks and intravenous infusions of VRC07-523LS (20 mg/kg) and CAP256V2LS (20 mg/kg) 1 week after the first VES dose.
Participants stopped ART by week 5 and remained off ART for 44 weeks or until meeting ART restart criteria (HIV-1 RNA ≥1000 copies/mL for 8 consecutive weeks; or confirmed HIV-1 RNA >100,000 copies/mL; or confirmed CD4 count <350 cells/μL). Blood samples were collected at baseline and 24 hours after VES doses 1, 5, and 10 for quantification of ISG mRNA expression and serum cytokine levels. Statistical analyses included Wilcoxon rank-sum test and Cox proportional hazards model.
Results: 13/20 participants received all 10 VES doses; 6 participants discontinued VES due to viral rebound, and 1 due to adverse events. Consistent upregulation of ISGs (ISG15, MX1, OAS1), cytokines (IFNα, IP10, IL1RA), TLR7, and chemokines (CCL19, CCL8, MCP-1) was observed after each VES dose, with no increase in magnitude after dose escalation. ISG upregulation was more sustained throughout dosing in participants with delayed ART restart (DR; 16-44 weeks) and long-term delayed ART restart (LTDR; >44 weeks), with minimal overall differences in absolute ISG levels across ATI outcomes including early ART restart (ER; <16 weeks), DR and LTDR groups.
Conclusions: VES induced consistent upregulation of ISGs in Black female participants in this small study, suggesting a similar pharmacodynamic effect in this population, compared with previously studied populations.

ART resistance

WEPEB019

Switching to Doravirine/Islatravir (100 mg/0.25 mg) once daily maintained viral suppression in the presence of archived M184I/V resistance-associated mutations in proviral DNA

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Background: In three Phase 3 studies (P051: NCT05631093; P052: NCT05630755; P054: NCT05766501) virologic suppression was maintained in people living with HIV who switched to doravirine/islatravir (DOR/ISL 100 mg/0.25 mg); 2 studies (P051 and P052) were comparative and demonstrated noninferiority to baseline antiretroviral therapy (bART) or bictegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF).
This analysis examined the impact of preexisting resistance-associated mutations (RAMs) in proviral DNA on the virologic response to DOR/ISL in these studies, with a primary focus on M184I/V; non-nucleoside reverse transcriptase inhibitor (NNRTI) RAMs were also analyzed.
Methods: Participants with HIV-1 RNA <50 copies/mL and no known treatment failure or documented DOR resistance at baseline were randomized (2:1) to switch to DOR/ISL 100 mg/0.25 mg once-daily or to continue bART in P051 or BIC/FTC/TAF in P052. P054 is an open-label, single-arm study in adults who previously received DOR/ISL 100 mg/0.75 mg and switched to DOR/ISL 100 mg/0.25 mg. Baseline reverse transcriptase RAMs present in HIV-1 proviral DNA were identified using the GenoSure Archive assay (Monogram Biosciences).
Results: Baseline resistance data were available for 90.5% of study participants (1545/1708) across the 3 studies. Of the 1227 participants with baseline data who received DOR/ISL through 48 weeks (P051 or P052) or through a mean of approximately 57 weeks (P054), 70 (5.7%) had preexisting M184I/V and 323 (26.3%) had preexisting NNRTI RAMs with 2 (0.16%) having Y188L, an exclusionary DOR RAM.

Among participants with preexisting NNRTI RAMs, 2 DOR/ISL participants (both in P051 and the only 2 with Y188L) discontinued due to lack of efficacy. Both had multidrug resistance including M184 substitutions at baseline. No other DOR/ISL participants with M184 substitutions discontinued due to lack of efficacy.
Overall, 5/166 (3.0%) bART participants (P051) and 10/152 (6.6%) BIC/FTC/TAF participants (P052) had preexisting M184I/V and 33/166 (19.9%) bART participants (P051) had preexisting NNRTI RAMs, none of these participants discontinued due to lack of efficacy. BIC/FTC/TAF has no NNRTI, so impact of preexisting NNRTI RAMs was not evaluated.
Conclusions: Switching to DOR/ISL 100 mg/0.25 mg in Phase 3 clinical studies maintained viral suppression for at least 48 weeks in the presence of preexisting M184I/V in proviral DNA.

Pandemics, conflict and climate

WEPEB020

Examining COVID-19 knowledge, attitudes, and practices among people vulnerable to HIV in Uganda

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Background: COVID-19 knowledge, attitudes, and practices (KAPs) are influenced by behavioral and social factors that can differ by region and population subgroups. Implementation of COVID-19 preventive measures among people vulnerable to HIV may differ due to social marginalization and barriers to accessing healthcare. We examined COVID-19 KAPs and factors associated with COVID-19 preventive measures among individuals in Uganda with behavioral vulnerability to HIV.
Methods: From October 2022 to September 2024, participants aged 14-55 years with behavioral vulnerability to HIV (self-reported sexually transmitted infection, transactional sex, condomless sex, and/or injection drug use) were enrolled into an HIV incidence cohort in Uganda. At enrollment, participants completed questionnaires regarding COVID-19 KAPs COVID-19 knowledge was assessed through true/false questions, attitudes through agree/disagree questions, and practices through yes/no questions. Frequency distributions were used to assess the COVID-19 KAPs.
Results: Of 412 participants analyzed, 232 (56.3%) were female. The median age was 21.0 years (interquartile range: 19.0-24.0) and 156 (38.7%) had a secondary education or higher.

Participants were least knowledgeable about the prompts "I can still have a COVID-19 infection even if I do not have symptoms" (n=136, 33.4%) and "variants (mutated strains) of COVID-19 may increase the chance that people can be infected with COVID-19 multiple times" (n=120, 30.5%). Participants generally agreed that having COVID-19 poses a risk to others (n=390, 94.9%). The most endorsed preventive practices were washing hands (n=372, 91.0%), wearing face masks (n=313, 76.2%), and avoiding people with symptoms (n=303, 74.1%) [Figure].

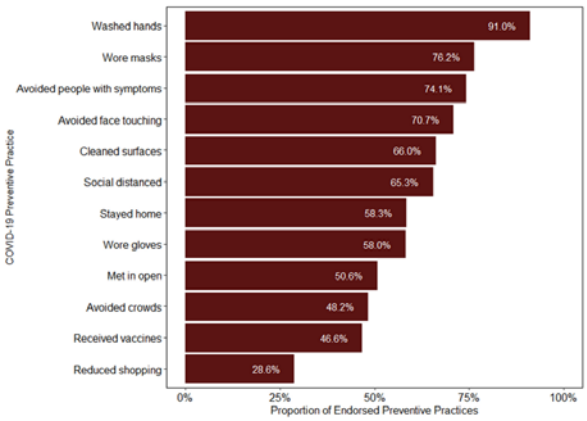


Figure. Proportion of Ugandan participants that endorsed COVID-19 preventive practices.

Conclusions: We observed gaps in understanding COVID-19 epidemiology among HIV vulnerable Ugandans. Future outreach to this population should prioritize education about disease transmission, potential virus mutations, and effective preventive measures.

HIV and ageing

WEPEB021

Cannabis use disorder diagnoses in the United States from 2000-2022 by HIV status, age, and comorbidity

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Background: Cannabis use has increased with its widespread legalization in the United States and is more common among people with HIV (PWH) than people without HIV (PWoH). Cannabis use disorder (CUD) produces financial, social, and health harms. CUD risk among aging PWH and those with comorbid disease is not well understood. We examined CUD trends from 2000-2022, by HIV status, age, and comorbidity.

Methods: Using data from the Veterans Aging Cohort Study-HIV, a United States cohort of PWH matched 1:2 to PWoH, we assessed the percent with CUD diagnoses documented in the electronic medical record by dividing the number of individuals with at least 1 International Classification of Diseases, Clinical Modification (ICD-CM) CUD code by the total individuals with any ICD-CM code in each year.

We examined trends by age (<50, 50-64, 65+ years old), comorbidity (Charlson Comorbidity Index [CCI], excluding HIV in index scoring), and HIV status graphically and with multivariable models adjusted for race/ethnicity, gender, and year.

Results: Demographic characteristics were comparable for PWH (n=58,959) vs. PWoH (n=126,413): 45% Black non-Latinx; 35% White non-Latinx; 7% Latinx; 3% women, and mean age 48 years. CUD increased from 2000 to 2022 in all age and comorbidity groups and was consistently higher among PWH (Figure 1; HIV adjusted OR=1.14 [95% CI=1.10-1.18]).

In adjusted models, higher comorbidity (reference CCI=0) was associated with an increased odds of CUD among PWH and PWoH. ORs were higher for PWH (CCI=1 OR=1.40 [95% CI=1.33, 1.48]; CCI=2+ OR=1.60 [95% CI=1.51, 1.70]) than PWoH (CCI=1 OR=1.26 [95% CI=1.21, 1.31]; CCI=2+ OR=1.34 [95% CI=1.28, 1.39]).

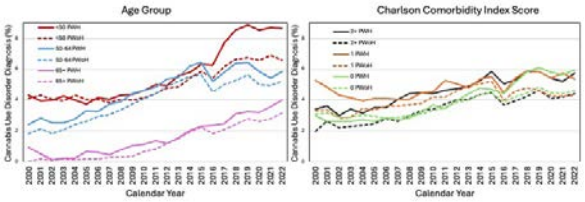


Figure 1. Percent with a cannabis use disorder over time, by age and comorbidity burden, among 58,959 people with HIV (PWH) and 126,413 people without HIV (PWoH), receiving clinical care at the United States Veterans Health Administration, 2000-2022.

Conclusions: CUD increased dramatically over time and is higher among PWH. The increase in CUD among older PWH and those with comorbid disease is especially alarming as cannabis interacts with many prescription medications and can compromise cognition. HIV providers should routinely screen for cannabis use and CUD.

Diagnostic and monitoring tools

WEPEB022

The role of high-sensitivity C-reaction protein in the prediction of long-term mortality in HIV-positive patients: results from the IDEA-TB cohort study in Kenya

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Background: HIV remains a major cause of morbidity and mortality, particularly in sub-Saharan Africa. Despite advances, long-term mortality remain high among people living with HIV (PLWH). High-sensitivity C-reactive protein (HS-CRP) is a potential biomarker for predicting mortality in PLWH.

This study assessed the predictive value of HS-CRP levels for long-term mortality among PLWH in Meru County, Kenya, comparing its utility to models based on CD4 count, viral load, and BMI.

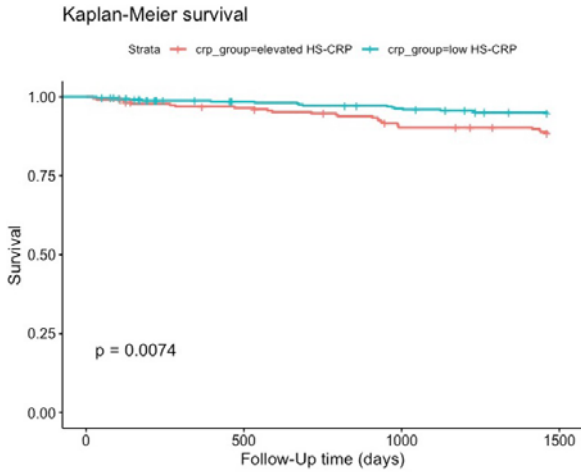
Methods: This cohort study involved PLWH from three DREAM centers in Meru County suspected of having TB on symptom screening, followed for four years. HS-CRP levels were measured at enrollment.

Statistical analyses included Kaplan-Meier survival curves, ROC curve analysis, and Cox proportional hazards regression models.

Results: Among the 574 HIV-positive patients screened for TB symptoms, 43(7.5%) died during the four-year follow-up period. The mean HS-CRP levels were 11.80 mg/L in the non-deceased group and 29.08 mg/L in the deceased group (p = 0.046).

ROC curve analysis showed an AUC of 0.5814, with an optimal HS-CRP cutoff of 3.68 mg/L, yielding a sensitivity of 60.5% and specificity of 61.2%. Kaplan-Meier survival curves indicated lower survival probabilities for patients with HS-CRP levels above 3.68 mg/L (p=0.0074).

Cox regression analysis revealed that elevated HS-CRP, age, and CD4<500 were independently associated with mortality. Including HS-CRP in predictive models improved the AUC from 67.2% to 76.2% when combined with CD4 and viral load.



Covariate	HR (exp(coef))	95% CI	p-value
HS-CRP Group (Low vs High)	0.4218	[0.2056-0.8652]	0.01853 *
Sex (M vs F)	0.7809	[0.3987-1.5295]	0.47087
Age at baseline	10.364	[1.0107-1.0627]	0.00527 **
CD4 Group at baseline (>500 vs <=500)	0.3089	[0.1263-0.7555]	0.01004 *
BMI at baseline	0.9281	[0.8495-1.0141]	0.09891
log VL at baseline	10.741	[0.9794-1.1780]	0.12922
TB at baseline (Yes vs No)	15.023	[0.6973-3.2364]	0.29868

***p<0.001, **p<0.01, *p<0.05

Conclusions: The findings suggest that HS-CRP could be a biomarker for improving the clinical management of PLWH. However, the implementation of this test must carefully consider the costs and resource availability.

WEPEB023

Validity of small volume blood testing for HIV viral load: phase 1 results in participants with undetectable and detectable HIV viral loads

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Background: New technology for small volume testing (known as TINIES) allows self-collection of blood for routine tests. Phase 1 of this study prospectively validates TINIES sampling for HIV-1 viral load (HIV VL). We report Phase 1 interim results.

Methods: People attending UK HIV clinics in London and Manchester for routine blood tests were invited to participate. Each participant had paired blood samples drawn: routine venous blood (VB) collection (1xEDTA for HIV VL) and TINIES finger prick samples (2xEDTA microcontainers for HIV VL).

Using 95% target sensitivity and specificity, a sample size calculation required 73 with HIV VL detectable (>50 copies/mL), and 73 with undetectable HIV VL (<50 copies/mL) for 95% confidence interval of +/-5%.

Due to sample dilution, TINIES undetectable cut-off is <90 copies/mL.

Results: 145 participant samples were analysed (20 female, 123 male, 2 other; 65% White UK/European; 20% Black African, 6% Asian, 9% other). Analysis of HIV VL on VB was not performed in five cases and there was one case of laboratory error.

In 90/139 samples, HIV VL was undetectable on VB. There was insufficient sample for TINIES analysis in 7 cases, TINIES analyses was not performed in two cases and there was laboratory error in one. HIV VL was undetectable on TINIES analysis in all remaining 80 cases, corresponding to a specificity of 100% (95% CI 96.0-100).

For 49 VB samples with detectable HIV VL, one paired TINIES sample was insufficient. 42/48 were reported as HIV-detectable by TINIES (VL>90 copies/ml), yielding a sensitivity of 87.5% (95%CI 74.8% - 95.3%). Of six samples with detectable VB VL reported as undetectable on TINIES testing, five had VL values <1000 copies/mL, four of which were < 200 copies/mL.

Conclusions: Interim results from 145 samples show TINIES delivers 100% concordance where HIV VL is undetectable on VB sampling (n=80).

48 samples showed TINIES testing has 87.5% sensitivity for detectable HIV-1 viral load. Reasons for sample failure (n=2) and discrepancy (n=6) are under investigation. Recruitment to the detectable HIV VL cohort is ongoing.

Phase 2 explores participant acceptability of this sampling method when undertaken at home.
Project funded by a BHIVA Research Grant awarded 2021.

Co-infections (including opportunistic infections)

WEPEB024

Incidence, causes, and predictors of re-admission of people with cryptococcal meningitis enrolled in ASTRO-CM study

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Background: Cryptococcal meningitis is the most common form of meningitis among adults with advanced HIV disease in Sub-Saharan Africa. It remains one of the leading causes of death among people living with HIV in resource-limited settings. Despite quality care given to them in clinical trials, a larger number of participants are re-admitted back after their initial discharge with re-occurrence of symptoms or clinical deterioration. Re-admission increases the unit cost treatment results in poor prognosis.
Our goal was to identify the incidence, causes, and predictors of re-admission in the first 10 weeks among partcipants who were enrolled in the Adjunctive Sertraline for Treatment of Cryptococcal Meningitis (ASTRO-CM) trial.
Methods: This was a retrospective cohort study involving people living with HIV with cryptococcal meningitis who were enrolled in the ASTRO-CM clinical trial and were discharged after the initial admission. Data was extracted and analyzed using Stata version 16. Continuous variables were expressed as mean and standard deviation.
Categorical variables expressed as frequencies and percentages. Incidence of re-admission was presented as simple proportion with 95% confidence interval.
Causes of re-admission were expressed as frequencies and we used Cox proportional hazard model to determine the predictors of re-admission, p value < 0.05 was considered significant and 95% confidence interval was reported.
Results: Our study analyzed 304 out of 460 participants enrolled in the ASTRO-CM trial. We found cumulative incidence of 29.6% (95% CI:24.7-35.0%). We found baseline low CSF WBC count (HR: 15.2, 95% CI: 2.5-92.4) and High CSF protein (HR: 20.0, 95% CI: 3.6-111.4) to be independently associated with re-admission of people with cryptococcal meningitis. We also found anemia (25.2%), bacterial infection (19.4%), extra pulmonary tuberculosis (7.8%), Pulmonary tuberculosis (4.8%), cryptococcal meningitis relapse (4.8%) and raised creatinine (4.8%) to be the commonest causes of re-admission of people with cryptococcal meningitis.
Conclusions: Our study showed that people with cryptococcal meningitis had a re-admission incidence of 29.6% and the main causes of re-admission were due to anemia, bacterial infection, extra pulmonary tuberculosis, cryptococcal meninigitis relapse, increased creatinine and pulmonary tuberculosis. High baseline CSF protein and low CSF WBC predicted re-admission in our study.

WEPEB025

Rationally designed antimicrobial peptides with anti-mycobacterial and immunomodulating activity

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Background: Tuberculosis (TB) now ranks alongside HIV as a leading cause of death worldwide. Globally, there is a growing public health concern over the increasing level of Mycobacterium tuberculosis (MTB) resistance to anti-mycobacterial treatment resulting in the emergence of multidrug-resistant (MDR), and extensively drug-resistant (XDR) TB cases.
To overcome the challenge of drug resistance new drugs with novel mechanisms of action are urgently needed. Antimicrobial peptides (AMPs) have emerged as a promising new form of antibiotics.
Methods: In this study we determined whether synthetic, rationally designed AMPs have anti-mycobacterial and immunomodulating activity to enhance growth inhibition of mycobacteria.
Five peptides were evaluated in broth medium compared to standard anti-tuberculosis drugs for anti-mycobacterial activity against the luminescent reporter strain, M. bovis BCG lux, by standard minimum inhibitory concentration (MIC) screening. Safety of the AMPs was assessed through haemolytic and cytotoxicity assays.
Anti-mycobacterial intracellular activity for the most promising active candidate (W8TP5), was assessed in both THP-1 derived macrophages and whole blood, together with the cytokine response profile.
Results: The AMPs were found to have anti-mycobacterial activity in broth against M. bovis BCG lux with W8TP5 being the most potent (MIC 63 µM) and also the least toxic to red blood cells and THP-1 cells at 1000 µM. W8TP5 also elicited TNFα production alone in THP-1 derived macrophages (140pg/mL and 412pg/mL for 32 µM and 63 µM peptide concentration respectively) and down-regulated IFNγ production in the whole blood assay demonstrating immunomodulating activity.

Conclusions: Synthetic rationally designed AMPs were found to have anti-mycobacterial and immunomodulatory activity, making them potential candidates as novel antibiotics.
Further work is required to determine the mechanisms of action of these peptides and how they modulate immune responses in mycobacterial conditions.

WEPEB026

Tuberculosis preventive treatment initiation and factors associated with adherence among newly diagnosed people living with HIV initiated on anti-retroviral therapy (ART) in Cameroon, 2020-2022

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Background: Tuberculosis preventive treatment (TPT) is recommended to reduce the burden of tuberculosis (TB) among people living with HIV (PLHIV) globally. However, implementation remains challenging in sub-Saharan Africa. Six months of isoniazid preventive therapy (IPT) is the recommended TPT regimen in Cameroon.
We assessed TPT uptake and factors associated with poor adherence to TPT among PLHIV in two regions of Cameroon.
Methods: We performed a retrospective cohort analysis using programmatic data collected between October 2020 and September 2022 from 72 PEPFAR-supported HIV clinics. All newly diagnosed PLHIV starting antiretroviral therapy (ART) and for whom active TB disease was excluded were eligible for TPT.
We described the initiation rate and adherence to TPT and performed logistic regression analysis to identify factors associated with non-initiation and adherence to TPT.
Results: Overall, 25,098 PLHIV were eligible for TPT, with a median age of 36 years (IQR: 29-45), and 62.6% were female. Among the 22,419 (89.3%) who started TPT, 17,728 (79.1%) began ART the same day, and only 11,584 (51.7%) completed treatment. The median time on TPT was 183 days (IQR: 181-190). In multivariable-adjusted analysis, factors associated with a lower odds of TPT initiation included delayed ART initiation (>7 days post-HIV diagnosis), compared to same-day initiation (aOR: 2.77, 95% CI: 2.25-3.38), and receiving care in rural areas compared to urban settings (aOR: 1.64, 95% CI: 1.42-1.90). PLHIV aged ≥20 years had a higher odds to initiate TPT compared to children/adolescents 0-19 years (aOR: 0.63, 95% CI: 0.51-0.78). ART interruption was associated with poor adherence to TPT (aOR: 2.84, 95% CI: 2.59-3.12), while initiating (aOR: 0.77, 95% CI: 0.71-0.83) or switching to a dolutegravir-based regimen (aOR: 0.71, 95% CI: 0.62-0.82) or another regimen as part of treatment optimization or tolerance decision (aOR: 0.66, 95% CI: 0.57-0.76) were associated with better adherence to TPT.
Conclusions: While TPT initiation among new ART clients was high overall, it is important to focus efforts on children, adolescents, and PLHIV who delay initiation. TPT adherence remained suboptimal, with ART interruption being one of the main risk factors for poor adherence, hence the need to benefit from enhanced adherence TPT interventions.

WEPEB027

Outcomes of pneumocystis pneumonia (PCP) in people living with HIV (PLHIV) in a high HIV/TB prevalence South African population

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Background: Pneumocystis pneumonia (PCP) is a common cause of severe respiratory illness among people with advanced HIV in sub-Saharan Africa. Clinical characteristics and outcomes are not well-characterised in this population.
Methods: We are undertaking a prospective observational cohort study to describe outcomes and evaluate non-invasive diagnostic tests for HIV-associated PCP. Consecutive PLHIV adults with probable (clinical case definition) or definite (positive immunofluorescent staining on sputum or bronchoalveolar lavage fluid) PCP are enrolled from Khayelitsha District Hospital, Cape Town. Eligible participants undergo bronchoscopy and evaluation for co-infections as inpatients and followed for 90 days to ascertain functional outcomes and mortality. This is an interim analysis to describe clinical characteristics, prevalence of co-infections, and short-term outcomes.
Results: 96 participants were enrolled over the period June 2023 to December 2024 and 56/96 (58%) underwent bronchoscopy. The median age was 36 years (interquar-

tile range, IQR 31-43) and 49 (51%) were women. The median CD4 count was 20 cells/mm^3 (IQR 8-58); 11 (11%) participants were currently on antiretroviral therapy (ART), 33 (34%) were ART-naïve, and 52 (54%) had interrupted ART. Only 5/95(5%) participants had HIV RNA < 50 copies/ml.
46/96 (48%) had definite PCP and 43/96 (45%) had probable PCP. 20/89 (22%) had severe acute respiratory distress syndrome (ARDS) (median 158 mmHg, IQR 122-177), 25/89 (28%) had moderate ARDS (median 246 mmHg, IQR 225-260) and 44/89 (49%) had mild ARDS (median 439 mmHg, IQR 342-545).
24/96 (25%) were newly diagnosed with tuberculosis co-infection. 73/96 (76%) had detectable cytomegalovirus (CMV) DNA in serum (median 2032 IU/ml, IQR 330-14058) and 45/56 (80%) had detectable CMV DNA in bronchoalveolar lavage (BAL) fluid (median 5122 IU/ml, IQR 925-279822). 62 patients had detectable Beta-D-glucan in serum (median 116 pg/ml, IQR 69-203). Median Beta-D-glucan was (133 pg/ml, IQR 101-240) among those with definite PCP and 93pg/ml (IQR 38-160) among those with probable PCP. There were 24 (25%) deaths.
Conclusions: HIV-associated PCP is associated with high mortality. Disengagement from ART continues to drive incidence and poses significant challenges in PLHIV. There was a high prevalence of tuberculosis co-infection. CMV viraemia and detection on BAL fluid was common; the clinical significance of this requires further investigation.

WEPEB028

Clinical and virologic outcomes in children with TB/HIV coinfection are poor compared to children with HIV on WHO-recommended antiretroviral therapy

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Background: The treatment of human immunodeficiency virus (HIV) infection in children with HIV and tuberculosis (TB) coinfection is complicated by delays in antiretroviral therapy (ART) initiation, high pill burden and drug-drug interactions. This study examined the clinical and virologic outcomes in children with TB/HIV coinfection on concomitant TB therapy compared to those with HIV.
Methods: A prospective study of ART outcomes in children with TB/HIV coinfection on rifampin-containing TB treatment and those with HIV alone was conducted at a teaching hospital in Ghana between 2019 and 2024. Children aged 3 months to 14 years old with HIV with or without TB coinfection on or eligible to initiate ART were enrolled and followed for 12 months. Children with TB coinfection on first-line antituberculosis therapy were prescribed a double dose of lopinavir/ritonavir (LPV/r) or dolutegravir (DTG) while on TB treatment according to WHO guidelines. Differences in baseline characteristics, clinical and virologic outcomes at 6- and 12-months follow-up were compared using Wilcoxon test, Chi-square or Fisher's exact test.
Results: Of 213 participants, 92 (43.22%) had TB coinfection, 117 (54.9%) were males and 146 (68.5%) were aged 3–10 years old. At study entry, participants with TB coinfection compared to those with HIV were more likely to be younger, have lower BMI-for-age, lower CD4 count, and a more recent diagnosis of HIV. Also, children with TB coinfection were less likely to be on DTG-based ART and more likely to have HIV RNA ≥ 1000 copies/mL. At 6 months of follow-up, the proportion of participants with HIV RNA <50 copies/mL (HIV suppression) was 34.3% and 74.3% in participants with TB coinfection compared to those with HIV (P<0.0001), and at 12 months, the proportions were 40.4% vs. 75.5%, respectively (P<0.0001). Participants with TB coinfection compared to those with HIV were significantly more likely to died (6.5% vs. 0.0%), discontinued the study (11.8% vs. 3.3%) or be lost-to-follow-up (14.0% vs. 5.8%), respectively, (P=0.0001).
Conclusions: Children with TB/HIV coinfection had more severe HIV disease, poor clinical outcomes and high rates of HIV non-suppression on WHO-recommended ART. Strategies to improve the outcomes of children with TB/HIV coinfection are needed.

Co-morbidities and clinical complications of HIV and antiretroviral therapy

WEPEB029

Comparison of clinical outcomes in people with HIV receiving liver or kidney transplants from HIV-positive and HIV-negative donors

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Background: This study aims to compare outcomes in people with HIV(PWH) who received liver or kidney transplant from HIV-positive donors(D+/R+) versus those who underwent transplantation from HIV-negative donors(D-/R+).

Methods: Retrospective study including PWH who underwent liver and/or kidney transplant in Modena(Italy) from Jan 2003 to Jan 2024. Recipients were compared according to donor HIV-serostatus. Data collected included demographics, HIV-related characteristics, clinical and graft-related outcomes.

Results: Among 118 transplants in PWH, 8 belonged to the D+/R+ group (5 liver, 3 kidney; 1 living liver donor) and 110 to the D-/R+ group (77 liver, 27 kidney, 6 combined liver-kidney; 2 living donors). Clinical characteristics are shown in the figure and table.

Figure. Clinical characteristics of recipients with HIV of a transplant (Tx) from an HIV positive donor

	Organ/Year	Age/Gender	Liver/Kidney disease	MELD-Na/ Type and time on dialysis	Donor	CD4 at Tx	ART at Tx	Immunosuppressive drugs after Tx	Graft/patient status
Case 1	Liver/2017	55/male	HCV-related cirrhosis	15	Deceased (antiHBc+)	164	RAL+ ABC/3TC (switch post Tx: RAL+TAF/FTC)	Basiliximab + tacrolimus (then sirolimus), steroids	Failure/death (cause unknown)
Case 2	Liver/2020	61/male	HCC in HCV/HBV/HDV related cirrhosis	10	Deceased	117	RPV/TAF/FTC (switch post Tx: BIC/TAF/FTC)	Basiliximab + tacrolimus, steroids	Alive/Death (HCC recurrence)
Case 3	Kidney/2021	54/female	Chronic glomerulosephritis	Haemodialysis (0.85 yrs)	Deceased	600	DRV/cobi + RAL (switch post Tx: BIC/TAF/FTC)	Basiliximab + tacrolimus (then everolimus), mycophenolate, steroids	Alive/Alive
Case 4	Liver/2021	59/male	HCV-related cirrhosis	13	Deceased (antiHBc+)	145	BIC/TAF/FTC	Basiliximab + tacrolimus	Alive/Alive
Case 5	Liver/2022	60/male	HCV/HBV/HDV related cirrhosis	14	Living (antiHCV+)	764	BIC/TAF/FTC	Basiliximab + tacrolimus	Alive/Alive
Case 6	Liver/2023	62/male	HCC in HCV-related cirrhosis	9	Deceased (antiHCV and antiHBc+)	145	BIC/TAF/FTC	Basiliximab + tacrolimus	Alive/alive
Case 7	Kidney/2024	58/male	Iatrogenic	Haemodialysis (0.89 yrs)	Deceased (antiHBc+)	597	DRV+ABC/3TC (switch post Tx: DTG/3TC)	Basiliximab + tacrolimus, mycophenolate, steroids	Alive/Alive
Case 8	Kidney/2024	69/male	Probable HIVAN	Peritoneal dialysis (1.26 yrs)	Deceased (antiHBc+)	210	DTG/RPV+MVC (switch post Tx: BIC/TAF/FTC)	Basiliximab + tacrolimus, mycophenolate, steroids	Alive/alive

	D+/R+ (n=8)	D-/R+ (n=110)	P value
Age (years), median (IQR)	59.5 (54-69)	53 (38-65)	0.011
Positive HCV IgG, n (%)	5 (62.5)	78 (70.9)	0.440
Time from HIV diagnosis (years), median (IQR)	32.8 (16.7-37.0)	23.2 (5.6-38.2)	0.014
CD4 at Tx (cell/mmc), median (IQR)	164 (117-744)	341 (127-1154)	0.055
Time in dialysis (years), median (IQR)	0.8 (0.8-1.2)	3.2 (0.61-11.9)	0.016
MELD-Na, median (IQR)	13 (8-14)	27 (10-49)	0.028
Donor age (years), median (IQR)	51.5 (39-59)	56.5 (23-82)	0.321
Length of stay (days), median (IQR)	13 (5-25)	15 (7-47)	0.227
Graft rejection, n (%)	0 (0)	26 (23.6)	0.127
Alive recipients at last available follow-up, n (%)	6 (75.0)	74 (67.3)	0.493

Table. Comparison of characteristics between people with HIV receiving solid organ transplant according to donor HIV-serostatus (n=118).

Recipients in D+/R+ group had longer HIV duration (33 [IQR17-37] vs 23 [IQR6-38] years, p=0.014) and lower CD4 at transplant (164 [IQR117-744] vs 341 [IQR127-1154] cell/mmc, p=0.055). At transplant, all recipients had HIV-RNA<50 copies/ml. HIV and ARV management were similar in the two groups with only few viral blips occurring in the follow-up and one case only (D+/R+) showing persistent low-level viremia(no emergent resistance muntations).

Graft rejection occurred only in D-/R+ group (0% vs 23.6%); recipients' survival was 75% vs 67.3% with a mortality incidence rate of 14.8 (IQR3.7-59.3) per 100PYFU in D+/R+ vs. 5.7 (IQR4.1-8.1) per 100PYFU in D-/R+(p=0.278).

Conclusions: This study demonstrates that solid organ transplantation from HIV-positive donors is a viable option for PWH, with comparable recipient and graft clinical outcomes to transplants from HIV-negative donors. These findings support the expanding use of HIV-positive donors in carefully selected cases to address organ shortages.

WEPEB030

Prevalence, incidence, and risk factors for dermatological conditions in people with HIV in the modern antiretroviral (ART) era: observational cohort study, Washington, DC

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Background: Dermatological conditions affect 90% of people living with HIV (PWH) over their lifetime. Despite advancements in antiretroviral therapy (ART), gaps in understanding dermatologic risk factors among PWH persist, warranting re-examination. We examined dermatologic conditions among PWH in Washington, DC.

Methods: DC Cohort participants between 2011-2023 with ≥2 HIV-care encounters and ≥1 CD4 lab were included. The outcome was the presence of a dermatologic condition (categorized as infectious, inflammatory, or cutaneous malignancy) identified with diagnostic codes. Covariates included demographic and clinical factors (e.g., age per 10 years, gender, race, CD4 counts, smoking, alcohol use). Descriptive statistics, stratified by condition category, were generated. Incidence of new conditions was assessed among PWH who enrolled in DC Cohort <1 year after HIV diagnosis over the study period.

Multivariable logistic regression estimated adjusted odds ratios (aOR) and 95% confidence intervals (95% CI) for factors associated with observed conditions.

Results: Among 11,231 participants (median age: 47 years [IQR:36–55]; 63% Black; 6% Hispanic; 72% cisgender men; 78% on ART at time of condition diagnosis; 33% with nadir CD4 <200 cells/μL), 53% (n=5,905) had a dermatologic condition. Among these, infectious conditions were most common (86%), followed by inflammatory (31%), and malignancies (13%). Incidence declined significantly for infectious (471 to 45), inflammatory (302 to 41), and malignancies (25 to 7), per 1,000 people (all p<0.0001).

Cisgender women had higher odds of malignancies (aOR:6.97; 95%CI: 5.49–8.84; p<0.001) compared to cisgender men, while Black PWH had lower odds of malignancies (aOR:0.39; 95%CI: 0.31–0.51; p<0.001) and inflammatory conditions (aOR:0.67; 95%CI: 0.56–0.81; p<0.001) compared to White PWH.

Older age increased odds of malignancies (aOR:1.2; 95%CI: 1.1–1.3; p<0.001), while higher nadir CD4 count (>500 cells/μL) reduced odds of malignancies (aOR:0.59; 95%CI: 0.45–0.77;

p<0.001) and inflammatory conditions (aOR:0.67; 95%CI: 0.56–0.80; p<0.001). Smoking (aOR:1.2; 95%CI: 1.1–1.3) and alcohol use (aOR:1.1; 95%CI: 1.0–1.3) were associated with increased odds of infectious conditions (p<0.01).

Conclusions: Declining dermatologic condition incidence observed in our cohort may reflect advancements in HIV management.

However, nadir CD4, smoking, alcohol use, and demographic disparities highlight the need for targeted interventions, enhanced screening, and immune restoration to improve dermatologic outcomes.

WEPEB031

The intersection of HIV care outcomes and CVD-related comorbidities among Black sexual minority men living with HIV in the U.S. Mid-Atlantic region

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Background: Heart disease, diabetes and hypertension–leading causes of death among U.S. Black men–are further exacerbated among those living with HIV (LWH), and Black sexual minority men (SMM) LWH in particular, a population who experiences a higher rate of HIV-related mortality than white SMM. However, little is known about the relationships between cardiovascular disease (CVD)-related outcomes and care outcomes in Black SMM LWH.

This study tested the hypothesis that higher care outcomes are associated with a lower prevalence of co-morbid CVD-related outcomes.

Methods: Data came from a digital feasibility study among 1,016 Mid-Atlantic Black SMM LWH recruited between 2023 and 2024. Data included self-reported CVD (myocardial infarction, congestive heart failure, and stroke), hypertension, and diabetes; HIV care outcomes included HIV viral load, current ART use, ART taken as prescribed, HIV care visits in past year, and viral load tests in the past year.

To estimate the relationship between CVD-related outcomes and HIV care outcomes, we used modified Poisson regression models with robust standard errors to calculate prevalence ratio (PR; 95% confidence intervals [CI]) before and after adjustment for socio-demographic characteristics.

Results: The prevalence of CVD was 6.8% followed by 11.7% for diabetes and 21.2% for hypertension. In unadjusted models, the three CVD-related comorbidities were associated with having lower prevalence of three outcomes: 3 or care visits in the past year, having 3 or more viral load tests in the past year, and taking ART as prescribed.

After adjustment, CVD was associated with a 79% lower prevalence of 3 or more HIV care visits in the past year (aPR=0.21, 95% CI=0.08,0.55). Diabetes was associated with a 65% lower prevalence of taking ART as prescribed in fully adjusted models (aPR=0.35, 95% CI=0.12,0.99).

	Cardio-vascular Disease		Hyperten-sion		Diabetes	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Detectable HIV Load	**0.50 (0.26, 0.95)**	0.67 (0.20, 2.24)	**0.60 (0.40, 0.91)**	1.57 (0.74, 3.33)	0.62 (0.38, 1.02)	0.43 (0.15, 1.23)
Current ART Use	0.35 (0.12, 1.07)	0.37 (0.08, 1.62)	0.72 (0.28, 1.82)	0.69 (0.21, 2.25)	0.69 (0.23, 2.06)	0.70 (0.18, 2.80)
ART Always or Almost Always Taken as Prescribed	**0.38 (0.20, 0.73)**	0.44 (0.12, 1.63)	**0.62 (0.41, 0.94)**	1.04 (0.50, 2.17)	**0.59 (0.36, 0.98)**	**0.35 (0.12, 0.99)**
3 or more HIV Care Visits in Past Year	**0.43 (0.23, 0.82)**	**0.21 (0.08, 0.55)**	1.47 (0.93, 2.31)	1.32 (0.69, 2.54)	1.06 (0.63, 1.79)	1.67 (0.71, 3.95)
3 or more Viral Load Tests in Past Year	**0.46 (0.24, 0.89)**	0.80 (0.23, 2.79)	**0.60 (0.40, 0.91)**	1.15 (0.55, 2.40)	**0.53 (0.32, 0.87)**	**0.21 (0.07, 0.65)**

Conclusions: Study findings illustrate a significant association of engagement in HIV care and treatment adherence with reduced cardio-metabolic health outcomes among Black SMMLWH, suggesting a need for a deeper understanding of these relationships in this population.

Antiretroviral therapies and clinical issues in adults

WEPEB032

Risk of developing low-level viremia (LLV) among people with HIV (PWH) with current HIV-RNA≤50 copies/mL receiving 2DR vs 3DR: a case control study

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Background: Low-level viremia(LLV) occurs in 7-22% of people with HIV(PWH). It is unclear whether the risk of developing LLV may be higher under the pressure of dual-drug regimens (2DR) vs. triple regimens (3DR).

Methods: PWH enrolled in the Icona Foundation Study cohort with virological suppression (≥2 consecutive HIV-RNA≤50copies/ml over 6 months) after 01/11/2014 (baseline) were included. A 1:3 Matched case-control study was performed, matching on previous gaps in care (>12 months between visits) and number of regimens failed (proxy for adherence to ART).

Cases defined as individuals experiencing LLV (2consecutive HIV-RNA 51-199copies/ml or 1 HIV-RNA 51-199copies/ml followed by ART change within 30 days) after baseline.

Controls defined as PWH who, after the same time from baseline to the date of LLV of the matched case (index date), still had HIV-RNA≤50 copies/ml.

The main exposure of interest was the type of regimen at the index date [2DR(DTG/3TC, DTG/RPV, DTG/DOR, CAB/RPV) vs. 3DR(DTG/BIC or RPV/DOR or boosted DRV or ATV + TXF/XTC)].

Follow-up for cases and controls accrued from baseline and was censored at time of viral rebound(HIV-RNA>200 copies/ml) or last available HIV-RNA. The association between regimen received(2DR vs. 3DR) and risk of LLV evaluated using conditional logistic regression.

Results: Among 979PWH, 243 had LLV. Sixty-seven (28%) cases were receiving 2DR compared to 231 (31%) of controls.

Among those on 2DR, 83% were on DTG/3TC. Among those prescribed 3DR, 31% were on RPV+TXF/XTC followed by 20% BIC+TXF/XTC. MSM and participants with higher education were more likely to use 2DRvs.3DR; 2DR were more common in more recent years compared to 3DR (Figure A).

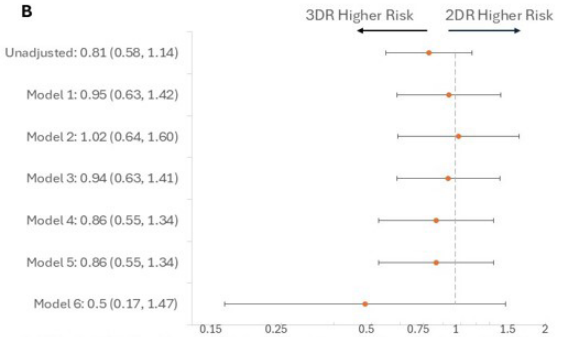
After adjusting for confounding, there was no evidence for a difference in risk of LLV for 2DRvs.3DR [OR=0.95, 95%CI(0.63, 1.42)] (Figure B).

Figure: A: Comparison of case/control status and of baseline characteristics stratified by 2DR vs 3DR and B: Odd Ratios for developing low level viremia (LLV) on 2DR vs 3DR after adjusting for confounding from fitting four separate conditional logistic regression models

A

		2DR		3DR		Overall		p-value
		N	%	N	%	N	%	
Control		231	77.5	505	74.2	736	75.2	0.263
Case		67	22.5	176	25.8	243	24.8	
Female		38	12.8	145	21.3	183	18.7	0.002
HIV risk group	PWID	24	8.1	66	9.7	90	9.2	0.016
	heterosex	90	30.2	269	39.5	359	36.7	
	MSM	163	54.7	302	44.3	465	47.5	
	other/unk	21	7	44	6.5	65	6.6	
Education	Primary School	19	6.4	29	4.3	48	4.9	0.004
	Secondary School	132	44.3	319	46.8	451	46.1	
	College/University	52	17.4	70	10.3	122	12.5	
	missing	95	31.9	263	38.6	358	36.6	
Year at baseline – median (IQR)		2018 (2016, 2019)		2016 (2015, 2019)		2017 (2015, 2019)		<0.001

B



Model 1: adjusting for the minimum sufficient adjustment set according to our directed acyclic graph (not shown): drug class, duration of HIV-RNA suppression, year at baseline, duration of ART, CD4 at baseline CD8 at baseline AIDS at baseline, mode of HIV transmission, and level of education at baseline.
Model 2: same as model 1, restricting to cases defined by 2 consecutive HIV-RNA values.
Model 3: same as model 1, including uncommon 3DR regimens (DTG ABC 3TC and RPV ABC 3TC)
Model 4: same as model 1, restricting 2DR to only DTG/3TC
Model 5: same as model 1, restricting 3DR to only BIC+TXF/XTC
Model 6: same as model 1, restricting 3DR to only BIC+TXF/XTC and 2DR to only DTG/3TC

Conclusions: On modern ART era, the use of DTG-based 2DR is not associated with a higher risk of developing LLV after achieving suppression compared to TXF-based 3DR.

WEPEB033

Rapid virologic suppression with DTG/3TC facilitates early switch to CAB+RPV LA for treatment-naive people living with HIV: suppression phase outcomes from the Phase 3b VOLITION study

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Background: Both dolutegravir and lamivudine (DTG/3TC) and long-acting injectable cabotegravir plus rilpivirine (CAB+RPV LA) are two-drug regimens with established efficacy and safety profiles and limited drug–drug interactions. Offering treatment options with different delivery modalities and dosing frequencies allows for greater choice. VOLITION (NCT05917509) is the first study to evaluate optional switch from DTG/3TC to CAB+RPV LA immediately after attaining virologic suppression in antiretroviral therapy (ART)-naive adults with HIV-1. We present VOLITION Suppression Phase outcomes.

Methods: VOLITION is a Phase 3b, multicenter, non-randomized, parallel-group, open-label study evaluating initial viral suppression with DTG/3TC up to ~16 weeks followed by participant-determined optional switch to CAB+RPV LA dosed every two months or continuation of DTG/3TC through Month 11/12. The primary endpoint during the Suppression Phase was time to virologic suppression (HIV-1 RNA <50 copies/mL).

Results: A diverse population of 171 participants was enrolled and initiated DTG/3TC, including 26% women, 30% Black or African American, and 51% Hispanic/Latinx (*Table*). Median (95% confidence interval) time to suppression with DTG/3TC was 4.14 (4.14–4.29) weeks and 97.7 (n=167/171) achieved virologic suppression within the 16-week Suppression Phase.

One participant had protocol-defined confirmed virologic failure (two consecutive HIV-1 RNA values ≥200 copies/mL after prior suppression) with no resistance-associated mutations detected.

Overall, 12% (n=21/171) of participants had a drug-related adverse event (all Grade 1 or 2), with few (<1%) treatment-related discontinuations. Participants reported high levels of treatment satisfaction with DTG/3TC

(mean score, 57/66) during the Suppression Phase. Most participants eligible to switch chose CAB+RPV LA at Day of Choice and the majority reported a positive opinion about switching.

Parameter	DTG/3TC (n=171)
Median age, years (range)	31 (18–70)
≥50 years, n (%)	18 (11)
Women (self-identified gender), n (%)	45 (26)
Race, n (%)	
Black or African American	51 (30)
White	106 (62)
Other races or not reported or unknown*	14 (8)
Hispanic/Latinx ethnicity, n (%)	88 (51)
Plasma HIV-1 RNA (copies/mL) category, n (%)	
<100,000	106 (62)
100,000 to <500,000	50 (29)
500,000 to <1,000,000	11 (6)
≥1,000,000	4 (2)
CD4+ (cells/mm^3) category, n (%)	
<100	8 (5)
100 to <200	19 (11)
200 to <350	46 (27)
350 to <500	45 (26)
≥500	53 (31)

*Other race participants: American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and Multiple, n=3; Asian, n=4, not reported or unknown, n=7.
3TC, lamivudine; DTG, dolutegravir.

Table. Baseline characteristics (Suppression Phase).

Conclusions: Once-daily DTG/3TC achieved rapid virologic suppression in a diverse population of treatment-naive adults with HIV-1, confirming its high potency and providing a pathway to person-centered treatment, allowing people to choose an early switch to LA therapy of their own VOLITION.

WEPEB034

Safety and efficacy of ANV/3TC/TDF vs E/C/F/TAF for maintaining virologic suppression in adults living with HIV-1: week 96 results from the phase 3, noninferiority SPRINT randomized trial

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Background: The SPRINT study demonstrated that immediate switch to tenofovir DF- (TDF-) containing, ainuovirine- (ANV) based regimen (ANV/3TC/TDF) resulted in non-inferior virologic efficacy, and improved cardiometabolic conditions compared to that to tenofovir alafenamide-containing, cobicistat-boosted elvitegravir-based regimen (E/C/F/TAF) at 48 weeks.

Methods: In the extensional study between weeks 48, and 96, people with HIV-1 (PWH) on ANV/3TC/TDF continued the assigned regimen (immediate switch arm), while those on E/C/F/TAF re-switched to ANV/3TC/TDF FDC (delayed switch arm). The E/C/F/TAF arm (weeks 0 to 48) was used as comparator for the extensional study. The primary efficacy end point was proportion of PWH with HIV-1 RNA titer at 50 copies per millimeter or above at a non-inferiority margin of 0.05.

Results: The primary efficacy end points were both 3.4% (13/381, and 13/377) for the two intervention arms at week 96, noninferior to that of the comparator arm at week 48 (1.6%; estimated treatment difference [ETD], 0.018, 95% confidence interval [95% CI], -0.005 to 0.043, P <0.001; 0.019, -0.004 to 0.044, P<0.001). The treatment-emergent adverse events were generally similar between the two intervention arms during the extensional period. The delayed switch arm showed modest reduction in body weight (mean± standard error of mean [SEM], -0.66±0.80

kg), in contrast to the immediate switch arm with slight weight gain from week 48 (0.05±0.82 kg; -0.71 kg, -1.18 to -0.24, P=0.003 for difference). Fasting serum low-density lipoprotein cholesterol remained generally unchanged in the immediate switch arm (0.01±0.04 mmol/L) but improved greatly in the delayed switch arm at week 96 from week 48 (-0.37 ± 0.08 mmol/L; -0.38, -0.46 to -0.31; P<0.001; Figure 1).

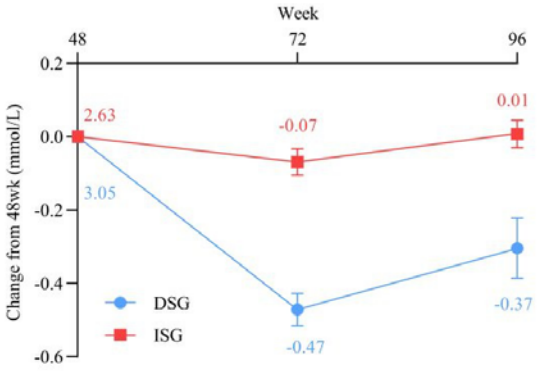


Figure 1. Change from week 48 in LDL-C

ISG, immediate switch arm, ISG; DSG, delayed switch arm.

Conclusions: Both immediate and delayed switches to ANV/3TC/TDF maintained high viral suppression through 96 weeks. Delayed switch could offset weight gain, and lipid dysmetabolism associated with previous exposure to E/C/F/TAF.

WEPEB035

Persistent and long-acting intracellular three HIV drug concentrations in participants after subcutaneous TLC-ART 101

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Background: Current oral or long-acting ART drugs and injectables have low intracellular concentrations in lymphocytes. Injectable TLC-ART101, a Drug-combination NanoParticle (DcNP) platform with lopinavir, ritonavir, and tenofovir, targets lymphoid tissues during first-pass distribution. This enhances lymphocyte drug uptake and retention, achieving higher and long-acting intracellular concentrations in PBMCs compared to plasma-based delivery.

Methods: People without HIV received TLC-ART101 in 1.5 mL (n=4) or 4 mL (n=5) doses (NCT06850728). Blood samples were collected frequently for three days post-injection, then weekly for two months. Plasma drugs (≥0.1 ng/mL) and PBMCs (isolated via GLP, lysed at 2×10⁶ cells/tube) were quantified by validated LC-MS/MS assays (limits: 1.8–8.8 pg/mL). The area under the curve (AUC) was calculated using trapezoidal methods for plasma and PBMC concentration-time profiles.

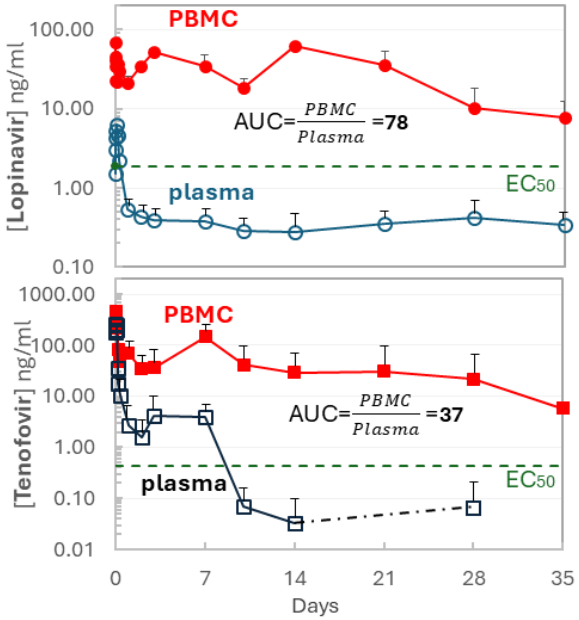
Results: All participants showed sustained intracellular lopinavir and tenofovir levels in PBMCs, with substantially higher concentrations than plasma for 35 days (Figure, ritonavir not shown).

Results indicate:

i. Prolonged cellular retention of lopinavir and tenofovir with TLC-ART101,

ii. PBMC-to-plasma AUC ratios of 78 (lopinavir) and 37 (tenofovir), demonstrating enhanced cellular uptake and retention.

PBMC concentrations exceeded combined EC50 values (1.9 and 0.4 ng/mL for lopinavir and tenofovir, Figure) in the 1.5 mL group. In the 4 mL group, PBMC concentrations at 57 days reached 14 ng/mL (lopinavir) and 8 ng/mL (tenofovir), with 22-fold and 7-fold higher AUC ratios in PBMCs, respectively.



Time-course of cellular (PBMC) and plasma concentration for Lopinavir (top panel) and Tenofovir (lower panel), after a single SC TLC-101 in 1.5mL (low dose). Plasma's LOD = 0.1 ng/ml, PBMC's LOD= 0.5 and 2.5 pg/10^6 cells (0.29 pL/cell conversion); EC_{50}=1.9, 0.4 ng/ml, for lopinavir and tenofovir. AUC of cell (PBMC)-to-plasma are expressed as a ratio. Data presented as mean and SEM.

Conclusions: Current oral or injectable ART exhibits PBMC-to-plasma ratios below 1. TLC-ART101, using a DcNP platform, achieved higher intracellular than plasma drug levels. This study provides evidence that a cell-targeted, long-acting product can enhance intracellular concentrations.

Extending this approach to combinations like dolutegravir, lamivudine, and tenofovir may improve potency against HIV replication in HIV-targeted lymphocytes.

WEPEB036

Clinical outcomes among women in the OPERA cohort initiating CAB+RPV LA with viral loads ≥ 50 copies/mL

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Background: Cabotegravir + rilpivirine long-acting (CAB+RPV LA) injectable is indicated for treatment-experienced individuals with viral loads (VL) <50 copies/mL. However, 1 in 5 women receiving CAB+RPV LA in the OPERA cohort initiate the regimen with VL ≥50 copies/mL. This study assessed clinical outcomes among these women from 2021-2024.
Methods: Treatment-experienced women with HIV ≥18 years old who received ≥1 CAB+RPV LA injection between 21JAN2021-31AUG2023 and had VL ≥50 copies/mL at first injection were followed through 29FEB2024. Complete initiation was defined as first 2 injections within 67 days.
For monthly dosing schedules, maintenance injections were categorized as on-time (23-37 days after last injection), delayed (38-52 days), missed (53-67 days), or discontinued (≥68 days).
For every 2-month dosing, the respective windows were 53-67, 68-112, 113-127, and ≥128 days. Confirmed virologic failure (CVF) was defined as VL suppression to <50 copies/mL followed by 2 consecutive VLs ≥200 copies/mL or 1 VL ≥200 copies/mL and discontinuation.
Results: In total, 105 women were included. At baseline, median age was 43 (IQR: 35, 53), 79% were Black, 9% were Hispanic, 8% were transgender, 44% had a BMI ≥30 kg/m^2, median years since HIV diagnosis was 13 (IQR: 4, 22), and median VL was 1090 copies/mL (IQR: 89, 24700).
Among 95 (90%) women with complete initiation, 69 (73%) were on CAB+RPV LA with median follow-up of 19 months (IQR: 13, 25) at the time of analysis. Among 82 women (93%) with known dosing schedules and ≥1 maintenance injection, 39% of women received all maintenance injections on-time; 33% had ≥1 delayed maintenance injection and 17% had ≥1 missed maintenance injection. Among 92 women (97%) with ≥1 VL over follow-up, 92% achieved VL <50 copies/mL at any point during follow-up (87% at last follow-up). Of 66 women with ≥1 VL available after suppression to <50 copies/mL, ≤5* experienced CVF after a median of 13 months (IQR: 9, 17).
Conclusions: In this diverse cohort of 105 women in routine clinical care in the US who started CAB+RPV LA regimen with VL ≥50 copies/mL, most suppressed to VL <50 copies/mL and CVF was rare.
*Not reported due to HIPAA regulations.

WEPEB037

Polypharmacy in older adults with HIV: how to collect, assess, and manage

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Background: This study aimed to develop a machine learning algorithm for people with HIV (PWH) to generate (i) a medication reconciliation list (MRL) and (ii) a report to assist physicians in identifying drug-drug interactions (DDIs) and potentially inappropriate prescriptions (PIMs).
Methods: A cross-sectional study was conducted in 2024 among older PWH attending the Modena HIV Metabolic Clinic (MHMC). Inclusion criteria included age >50 years, polypharmacy (PP, defined as chronic use of >5 drugs in addition to antiretroviral therapy), and the ability to use WhatsApp.
MRLs were created by uploading photos of medication boxes, which were converted into ATC codes and compared with electronic patient charts. Agreement between the prescribed and taken medication lists was evaluated, identifying medications prescribed but not taken and those taken but not prescribed.
Data from MRLs, patient demographics, HIV characteristics, and comorbidities were analyzed using Navpharma, generating reports on major and minor drug-drug interactions (DDIs) and PIMs, including nephrotoxicity risk, anticholinergic burden, and QT prolongation.
Results: 87 PWH with PP were included, 64 (73.6%) were men, median age was 63 (Q1, Q3: 59, 67), median current CD4 count was 631.5 cells/ml (Q1, Q3: 369, 791). Multimorbidity was present in 80 (92%). The mean number of medications per patient was 7 (Q1, Q3: 5,9). A total of 58 (40%) PWH did not participate due to technological barriers and/or unwillingness. Agreement between prescribed and taken medications was 76.8%, with 10.3% of medications prescribed but not taken and 21.8% taken but not prescribed.
Major drug-drug interactions (DDIs) were observed in 54%, while minor DDIs were observed in 47.1%. PIMs included potential nephrotoxicity (73.6%), significant anticholinergic burden (13.8%), and QT prolongation (59.8%).
After consultation with physicians and pharmacists, 20.8% medications were discontinued, and 18.1% new medications were initiated.
Conclusions: Polypharmacy is a significant issue among older PWH. AI tools like the one developed in this study show promise in improving medication reconciliation and prescribing appropriateness, ultimately enhancing patient safety and care.

Antiretroviral therapies and clinical issues in adolescents and young adults

WEPEB038

The relationship between economic well-being and antiretroviral therapy adherence in youth with HIV in the United States

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Background: Youth and young adults have high attrition across the HIV care continuum, including increased risk of antiretroviral therapy (ART) nonadherence and virologic failure. Long-acting injectable ART (LAI-ART) may improve adherence to ART, but structural barriers remain. Our study examined the relationship between economic well-being and ART adherence in youth with HIV (YWH) including YWH using LAI or oral ART.

Methods: We used baseline data from YWH (18–29 years old) in the US enrolled from 2023-2024 in a randomized trial addressing HIV care barriers, mental health, and substance use. Daily oral ART adherence was measured using a validated self-reported measure on a scale from 0–100. High adherence was defined as having a score of ≥80 for oral ART or not having missed/delayed visits for LAI-ART. We examined relationships between measures of economic well-being (subsistence needs and financial situation) with adherence using descriptive statistics and estimated adjusted risk ratios (RRs) using log-Poisson models with robust standard errors.

Results: Among 91 YWH enrolled at baseline, the median age was 27 years (interquartile range 24-28). Over half 69.2% (n=63) identified as cisgender male and the sample was racially diverse, with 28.6%, (n=26) identifying as Black or African American, 33% identifying as White (n=30), and over half identifying as Hispanic/Latino (56.0%, n=51). Most participants (87.9%, n=80) were taking oral ART and 11.0% (n=10) were on LAI-ART. Roughly 62% (n=47/76 with available data) were adherent to oral ART and 90% (n=9/10) were adherent to LAI-ART.

Those who said that they 'could not get by with the money they had' experienced significantly lower adherence (33.3%) compared to those who had enough money to live comfortably (75%; RR 0.50, 95% confidence interval (CI) 0.26-0.96) after adjusting for age, sex at birth, and race/ethnicity. This association remained when examining adherence only among those who used oral ART (RR 0.30, 95% CI 0.11-0.81).

Conclusions: Economic well-being was associated with adherence among YWH using both oral and LAI-ART. Approaches are needed that address financial barriers to improve ART adherence.

WEPEB039

HIV-1 drug resistance in children and implications for pediatric treatment strategies: a systematic review and meta-analysis

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Background: Failure in the prevention of mother-to-child HIV transmission (PMTCT) and pediatric treatment challenges led to pretreatment drug resistance (PDR) and acquired drug resistance (ADR) in children living with HIV (CLHIV). This review investigates drug resistance patterns in CLHIV and their significance at the global level.

Methods: A systematic review with meta-analysis was conducted on interventional and observational studies published between 2010 and 2024 with data on PDR and ADR in CLHIV (aged 0-15 years) worldwide. We analyzed children with PDR and without prior PMTCT exposure separately, using random effects to pool proportions and meta-regression to assess PDR and ADR subgroup differences by drug class and geographical regions.

The study is registered in the International Prospective Register of Systematic Reviews (Prospero) under CRD42023470034.

Results: Overall, 72 studies from 38 countries worldwide were included, encompassing 9,973 children (52.5% males). The overall pooled prevalence [95%CI] of PDR was 32.48% [26.08-39.21], with a high rate among those who failed PMTCT-prophylaxis (43.23% [32.94-53.82]) compared to those without PMTCT-intervention (19.40 [14.45-28.84]), p<0.01. PDR was higher in sub-Saharan Africa (SSA) at 39.13% vs. 22.56% in other regions (p<0.01) and was driven by non-nucleoside reverse transcriptase inhibitors (NNRTI)-mutations (OR [95%CI]: 2.46 [2.12-7.86]; p=0.013). Nucleoside reverse transcriptase inhibitors (NRTI) and Integrase strand transfer inhibitors (INSTI) related-PDR were 12.06% [5.97-19.73] and 1.29% [0.0-7.37], respectively. The pooled

prevalence of ADR was 61.43% [49.82-72.45] among CLHIV experiencing virological failure, with SSA being the most affected region worldwide (67.58% vs. 18.75% in other regions, p<0.001), driven by NNRTI mutations (OR [95%CI]: 3.84 [3.36-4.38]; p<0.001) and associated with high pre-ART viral load and WHO clinical stage II. INSTI-ADR was low (5.53% [2.49-9.53]) and found with dolutegravir-associated mutations (E138K, G118R, and R263K).

Conclusions: There are high burdens of PDR and ADR among CLHIV, with alarming rates in SSA driven by NNRTI resistance, suggesting the need to phase-out pediatric NNRTIs used for either PMTCT or treatment in low- and middle-income countries (LMICs). Importantly, emerging INSTI resistance among CLHIV highlights the relevance of HIVDR surveillance strategies to preserve current and future regimens, especially in LMICs where personalized management remains challenging.

Antiretroviral therapies and clinical issues in neonates, infants and children

WEPEB040

Gestational exposure to an efavirenz-containing compared to a dolutegravir-containing antiretroviral regimen is associated with lower anthropometrics at 18 months of life among children HIV-exposed uninfected in Botswana

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Background: Children with gestational exposure to HIV and antiretrovirals (ARVs) who remain HIV uninfected (CHEU) experience risk of suboptimal growth compared to children born to persons without HIV. We evaluated growth outcomes at 18-months of life among CHEU with gestational exposure to efavirenz (EFV)- versus dolutegravir (DTG)-containing ARV regimens.

Methods: Pregnant women with HIV were enrolled in the Botswana-based Tshilo Dikotla (Aug-2016 – May-2019) and FLOURISH (Jul-2021 – Feb-2023) studies, with mother-infant pairs prospectively followed. Infant birth anthropometrics were abstracted from medical charts and trained study staff obtained child weight and length at 18-months. Z scores for weight (WAZ), length (LAZ), and weight-for-length (WLZ) were calculated using World Health Organization standards.

Mixed effects models with study, Tshilo Dikotla or FLOURSH, as random effects were fit to assess differences in infant anthropometrics at 18 months of life.

Results: Of 333 CHEU enrolled in the two studies, 110 (33%) were exposed to EFV-containing regimens antenatally (CHEU-EFV) and 223 (67%) to DTG-containing regimens (CHEU-DTG). Median maternal age was higher among CHEU-EFV compared to CHEU-DTG [32.9 years (Interquartile Range (IQR) 27.7, 36.1) vs 29.4 (IQR 25.5, 35.2)]. Infant birth WAZ and LAZ did not vary by ARV exposure. At 18 months CHEU-EFV had lower mean WAZ [-0.39 (Standard Deviation (SD) ±1.17) versus -0.08 (SD ± 1.27); p-value = 0.03] and WLZ [-0.16 (Standard Deviation (SD) ±1.15) versus +0.15 (SD ± 1.31); p-value = 0.03] compared to CHEU-DTG; LAZ was similar between groups.

After adjusting for maternal age, marital status, gravidity, timing of antenatal antiretroviral exposure (from conception vs later in gestation), birth WAZ, preterm birth, infant sex, and exclusive breastfeeding duration, CHEU-EFV had lower mean WAZ [β = -0.17 (95% Confidence Interval (CI) -0.34, -0.01); p-value = 0.03] and WLZ [β = -0.19 (95% CI -0.37, -0.02); p-value = 0.03] at 18-months compared to CHEU-DTG. Mean LAZ at 18-months was similar between groups.

Conclusions: Gestational exposure to an EFV- vs. DTG-containing regimen was associated with lower WAZ and WLZ at 18 months. Future studies are warranted to understand mechanistic pathways and monitor the long-term implications of these early growth differences by gestational ARV regimen exposure.

Epidemiology of HIV

WEPEC041

Trends in HIV, syphilis and hepatitis prevalence among men who have sex with men in Rwanda: cross-sectional bio-behavioral surveys from 2015 through 2024

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Background: In 2015, the Rwanda Biomedical Center initiated Bio-behavioral Surveys (BBSs) to systematically assess HIV prevalence and sexual behaviors among Men who have Sex with Men (MSM). MSM are at a higher risk for HIV, syphilis, and viral hepatitis B and hepatitis C infection than the general population.

This abstract analyzes HIV, syphilis, and viral hepatitis B and C prevalence trends across four BBSs in Rwanda from 2015 to 2024.

Methods: Data presented here were drawn from MSM BBSs conducted in 2015 (n=452), 2020 (n=1292), 2021 (n=2217), and 2024 (n=3757), using Respondent-Driven Sampling to recruit, from the same provinces used in 2015, MSM aged 18 years and older who had engaged in anal sex within the last 12 months prior to the survey. Participants underwent HIV, active syphilis, and hepatitis B and hepatitis C testing in line with the national algorithm.

We used the Cochran-Armitage test, a nonparametric method, to test for trends in STATA version 18. Ethical approvals were obtained from local Rwanda National Ethics Committee and CDC.

Results: HIV prevalence varied from 4.0%(95%CI:2.2-5.8) in 2015 to 4.3% (1.2-7.3) in 2020, 6.9% (5.5-8.6) in 2021, and 5.8% (4.6-7.5) in 2024 (p-value for trend=0.01). Syphilis prevalence decreased from 4.0%(95%CI:1.0-6.0) in 2015 to 3.1% (1.8-4.3) in 2020 to 2.4% (1.7-3.4) in 2021 (p-value for trend from 2015 to 2021, p=0.04) but increased sharply to 5.9% (4.7-7.4) in 2024.

Information on hepatitis B surface antigen and hepatitis C antibody were first collected in 2021, showing a drop in the prevalence of hepatitis B from 4.2% (3.0-5.7) in 2021 to 1.5% (1.0-2.2) in 2024 (p<0.001) while the prevalence of hepatitis C increased from 0.7% (0.4-1.2) in 2021 to 1.6% (0.9-2.8) in 2024 (p=0.06).

Conclusions: The study revealed an increase in HIV prevalence, syphilis resurgence, and hepatitis C prevalence, emphasizing the need for robust prevention and treatment strategies to reduce disease burden and ensure healthcare access.

WEPEC043

HIV-1 retrospective molecular epidemiology analysis in Uruguay reveals genetic diversity and a new circulating recombinant form: CRF179_12B

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Background: In 2023, Latin America experienced a 9% increase in new HIV infections compared to 2010, with Uruguay reporting one of the highest regional incidence rates (0.51/1,000 adults). Around 16,000 individuals are living with HIV in Uruguay, with the epidemic concentrated in key populations. Although HIV-1 subtype B and B/F1 recombinants are recognized as prevalent, assessments of HIV diversity remain limited.

This study is the first nationwide longitudinal molecular analysis of HIV-1 in Uruguay, providing valuable insights into local and regional HIV trends.

Methods: Over 1,600 partial HIV-1 *pol* sequences and patient metadata from routine genotyping services (2007–2021) were analyzed. Subtyping was performed using online tools and phylogenetic methods. Statistical analyses assessed associations between demographic data and viral variants. A subset of samples was selected for full-length genome sequencing using the Illumina Miniseq platform.

Mosaic genomes were characterized through Bootscan analysis and further examined by phylogenetic inferences. Time-scale reconstruction was performed using BEAST.

Results: Our analysis identified HIV-1 variants B, C, A1, F1, and several recombinants (e.g., 12_BF1, 17_BF1, 28_BF1, 29_BF1, 31_BC, 38_BF1) in Uruguay, along with a clade of 107 B/F1-*like* strains, BF1.UY, unrelated to known variants. Subtype B was most prevalent (39.2%), followed by 12_BF1 (27.7%), 38_BF1 (12.8%), BF1.UY (8.3%), 28/29_BF1 (3.5%), and C (3.1%). Other variants comprised 5.4%. A decline in subtype B and an increase in B/F1 recombinants were observed over time.

Four full-length BF1.UY genomes revealed a consistent recombination pattern, identifying a novel circulating recombinant form, CRF179_12B, that probably emerged in Uruguay at the beginning of the 1990s.

Conclusions: This study provides important insights into the HIV epidemic in Uruguay, highlighting the cost-effective potential of resistance genotyping databases to track HIV dynamics. The prevalence of subtypes B, C, and 12_BF reflects shared transmission patterns with neighboring countries, given CRF12_BF's significance in Argentina and subtype C's in southern Brazil, both bordering Uruguay.
The decline of subtype B and the rise of B/F1 recombinants underscore changing local transmission dynamics. The identification of CRF179_12B suggests that recurrent recombination between prevalent B/F1 variants and circulating subtype B strains is likely playing a role in shaping the regional epidemic.

WEPEC044

Burden of non-communicable diseases among people living with HIV: a national cross-sectional analysis in Rwanda

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Background: With improved access to antiretroviral therapy (ART), life expectancy among people living with HIV (PLHIV) has increased, highlighting the growing burden of non-communicable diseases (NCDs) in this specific population. Understanding the prevalence, risk factors, and patterns of NCDs among PLHIV is critical to inform integrated and people-centered healthcare strategies.
Methods: A national cross-sectional study was conducted among PLHIV aged 15 years and above, targeting a sample size of 8,400 individuals. Data collection occurred from January to July 2024 across all provinces and the City of Kigali in Rwanda. Data were collected through standardized health assessments, including medical history, laboratory tests, and questionnaires on lifestyle and socioeconomic factors. NCDs assessed included hypertension, diabetes, asthma , and cervical cancer lesions. Data were analysed using STATA 17, with frequencies and proportions calculated for key variables. Logistic regression analysis was used to evaluate associations between demographic, behavioral, and clinical factors and NCD prevalence. Adjusted odds ratios, and corresponding 95% confidence intervals (CI) were reported.
Results: A total of 7,449 PLHIV participated in the study, 75.3% were female, and 56.6% were aged between 25 and 49 years. The overall prevalence of NCDs was 29%, with the most common condition being hypertension (24.2%), diabetes (1.1%), Asthma (1.1%) and cervical cancer lesions (17.2%).
Prevalence was significantly higher among individuals aged 50 years and above (38.8, p=<0.001), females (29.6, p =0.048), and those with a history of ART use for 20 years or more(30.8%, p < 0.001).
In the multivariable logistic regression analysis, having at least one NCD was independently associated with being aged 35-49 years (aOR:1.8, 95%CI:1.5-2.3), 50 years and above (aOR:3.7, 95%CI:3.0-4.6), and females (aOR:1.2, 95%CI:1.0-1.3). Additional factors included alcohol consumption (aOR:1.2, 95% CI: 1.1-1.4), overweight (aOR:1.4, 95%CI:1.2-1.7), obesity (aOR:1.7, 95%CI:1.3-2.2) and eating vegetables at least once a week was associated with a reduced likelihood of having an NCD (aOR: 0.8, 95%CI:0.7-0.9).
Conclusions: This study highlights a substantial burden of NCDs among PLHIV in Rwanda, particularly among elders, and those with prolonged ART use. Findings underscore the need for integrated HIV-NCD care models and targeted interventions to address modifiable risk factors and improve health outcomes.

Monitoring and population-level interventions for non-HIV outcomes

WEPEC045

Real-world liver outcomes in people with HIV and hepatitis B virus receiving antiretroviral therapy

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Background: Simultaneous presence of HIV/hepatitis B virus (HBV) significantly elevates the risk of liver-related complications compared to HIV or HBV alone. While antiretroviral therapy (ART) is known to slow liver disease progression, the long-term effects of different ART regimens on advanced liver disease in people with HIV/HBV in real-world settings remain unclear.
Methods: People with HIV/HBV who initiated ART between January 2016 and December 2023 were included from HealthVerity, a de-identified US medical and pharmacy claims database.
Advanced liver disease events, including cirrhosis, liver decompensation, and hepatocellular carcinoma (HCC), were evaluated among people treated with tenofovir alafenamide (TAF)–based, tenofovir disoproxil fumarate (TDF)–based, or non–tenofovir-based ART regimens; people with advanced liver disease events prior to ART initiation were excluded. Kaplan-Meier methods were used to illustrate time to advanced liver disease events across treatment groups.
Cox proportional hazards models were used to calculate adjusted hazard ratios and corresponding 95% CIs for advanced liver disease events.
Results: Among 3095 people with HIV/HBV who were included (median age: 48 years, IQR: 38-57, 26% female), 76% received TAF-based, 13% received TDF-based, and 11% received non–tenofovir-based ART regimens. Those treated with TAF- or TDF-based ART regimens had significantly longer time to an advanced liver disease event compared to those on non–tenofovir-based ART regimens (log-rank *P*<0.01).
After adjustment, both tenofovir-based ART regimens retained significantly reduced risk of all advanced liver disease events versus non–tenofovir-based ART regimens *(Table)*. TAF-based ART was also associated with a risk reduction of developing cirrhosis and HCC versus non–tenofovir-based ART.

Table. HRs and corresponding 95% CIs for advanced liver disease events comparing people with HIV/HBV who received TAF-based, TDF-based, and non–tenofovir-based ART regimens.*

Advanced liver disease event	Regimen group	N (event/persons)	Crude HR (95% CI)	Adjusted HR (95% CI)†
All	Non–tenofovir-based	41/311	Reference	Reference
	TAF-based	155/2078	**0.61 (0.43-0.86)**	**0.55 (0.38-0.79)**
	TDF-based	30/368	**0.56 (0.35-0.90)**	**0.45 (0.27-0.75)**
Cirrhosis	Non–tenofovir-based	25/332	Reference	Reference
	TAF-based	77/2184	**0.50 (0.32-0.78)**	**0.42 (0.26-0.68)**
	TDF-based	24/379	0.74 (0.42-1.30)	0.66 (0.36-1.21)
Liver decompensation	Non–tenofovir-based	32/334	Reference	Reference
	TAF-based	129/2186	0.69 (0.47-1.01)	**0.63 (0.42-0.95)**
	TDF-based	23/386	**0.58 (0.34-0.98)**	**0.46 (0.26-0.82)**
HCC	Non–tenofovir-based	7/346	Reference	Reference
	TAF-based	17/2324	**0.40 (0.17-0.98)**	**0.28 (0.11-0.77)**
	TDF-based	7/402	0.75 (0.26-2.15)	0.41 (0.12-1.35)

ART, antiretroviral therapy; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; HR, hazard ratio; TAF, tenofovir alafenamide; TDF, tenofovir disoproxil fumarate.
*Bolding denotes a statistically significant difference compared to the reference.
†HRs were adjusted for age, sex, baseline liver function, and comorbidities.

Conclusions: These results are consistent with an association between TAF-based ART regimens and a risk reduction of severe liver-related complications overall and, specifically, progression to cirrhosis and HCC, in people with HIV/HBV. Findings highlight the importance of optimizing ART regimens to include tenofovir to improve outcomes for people with HIV/HBV.

Methodology to support epidemiological studies

WEPEC046

Implementation of the Recent HIV Infection Program in Zambia, 2020 to 2024: lessons learnt

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Background: In 2020, Zambia launched the recent HIV infection surveillance (recency) program that made use of a recent infection testing algorithm (RITA) and epidemiological data to identify areas of potential increased transmission for a targeted HIV prevention response. Here we describe the implementation of the recency program.
Description: The Ministry of Health (MOH) in collaborations with stakeholders, including the U.S. Centers for Disease Control and Prevention (CDC) and the Centre for Infectious Disease Research in Zambia (CIDRZ), developed the surveillance protocol and standard operating procedures. Program site selection was based on HIV prevalence and testing positivity reported from October—December 2019 in the national surveillance system. Site activation included stakeholder engagement and facility-based assessments. Staff training for laboratory testers and clinical teams was conducted, supplemented by technical support and mentorship. For RITA, testing was performed on persons ≥ 15 years and testing newly positive for HIV-1.
A recent result on the Asante HIV-1 rapid recency assay and baseline viral load ≥1000 copies/ml was classified as recent infection, while RTRI recent and BVL <1000 copies/ml or RTRI long term results were classified as long-term infection.
Lessons learned: By September 2024, 726 recency activated health facilities in 27 districts, supported by 98 laboratories with 856 certified laboratory testers and 1,000 healthcare workers were orientated across all levels.
Cumulatively, 160,808 rapid recency tests for 294,544 (55%) eligible HIV positive tests were done which yielded 4.3% (9473/160,808) RITA-recent results.
Using geospatial mapping and triangulated program data, we identified geographic locations of potential increased HIV transmission. Five precision public health responses were launched, and stakeholders were able to deploy focused interventions in these areas for purposes of halting potential transmission.
We learned the importance of early stakeholder engagement, having set criteria for site selection, leveraging existing surveillance tools, incorporating virtual platforms for meetings and trainings, conducting frequent supervision and regular data quality assessments, as crucial for program continuity.
Conclusions/Next steps: Program success was supported by MOH buy-in, effective communication between facilities, district and provincial health offices, and strong laboratory services. Further, defined roles and responsibilities for all implementing partners, and community partner participation were key components of the program.

Surveillance: Measuring the HIV pandemic

WEPEC047

Survival analysis of time to viral load suppression and its associated factors in a cohort of people living with HIV on antiretroviral treatment from 2019 to 2023 in Rwanda

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Background: A key goal of antiretroviral therapy (ART) is to achieve and sustain long-term viral suppression. Therefore, monitoring viral load is crucial for assessing the effectiveness of treatment following ART initiation. Understanding the time to viral load suppression and its

determinants is essential for optimizing care and improving outcomes. This study analysed the time to viral load suppression and associated factors among people living with HIV (PLHIV) on ART in Rwanda from 2019 to 2023.

Methods: A retrospective cohort study was conducted using routine data from the national HIV program extracted from a case-based surveillance system in Rwanda. PLHIV aged 18 years and above who initiated ART between January 2019 and December 2023 in all health facilities nationwide were included. Survival analysis techniques, including Kaplan-Meier survival curves and Cox proportional hazards regression, were used to estimate the time to viral load suppression and identify associated factors. The covariates analysed included demographic characteristics and baseline clinical parameters.

Results: A total of 17,103 participants were included in the study, with a median follow-up duration of 11 months. Of these, 65% were female, and the median age was 33 years (IQR: 27-41). The median time to viral load suppression was 7 months. Kaplan-Meier estimates revealed that being unemployed (HR: 0.94, CI: 0.91-0.98) or male (HR: 0.92, CI: 0.90-0.96) was associated with a longer time to viral load suppression. Conversely, older age: 50 years and above (HR: 1.10, CI: 1.02-1.19) was associated with shorter time to suppression. Multivariate Cox regression identified significant predictors of time to viral load suppression including unemployment, age, and sex.

Conclusions: Demographic and socioeconomic factors such as employment status, age, and sex, influence time to viral load suppression. Targeted interventions that address these disparities are critical for optimizing ART effectiveness and achieving sustained viral suppression among PLHIV in Rwanda.

WEPEC048

Success in Cameroon: a summary of changes in HIV program indicators following PEPFAR expansion, October 2019 – September 2024

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Background: Although the Government of the Republic of Cameroon (GRC) provided HIV services across Cameroon prior to 2019, U.S. President's Emergency Plan for AIDS Relief (PEPFAR) support in Cameroon rapidly expanded starting in 2019. PEPFAR support increased from four regions to all 10 regions to scale up a package of HIV prevention, care, and treatment services at high-volume clinical sites.

We evaluated changes in key HIV program indicators (HIV testing, antiretroviral therapy [ART] and viral load [VL]) in PEPFAR-supported sites following the nationwide expansion.

Methods: A descriptive analysis was conducted among people living with HIV (PLHIV) in PEPFAR-supported sites in the 10 regions of Cameroon between October 2019 (start of fiscal year [FY] 2020) through September 2024 (end of FY2024). Using PEPFAR Monitoring, Evaluation, and Reporting data for Cameroon, changes were assessed in the number of people who tested and received results for HIV, the number of HIV diagnoses, the number of PLHIV receiving ART, VL coverage, and viral suppression (<1000 copies/mL).

Results: Among PEPFAR-supported clients across all 10 regions of Cameroon, HIV testing and diagnoses peaked in FY2021 (1,559,792 tested; 62,345 diagnosed) and were lowest in FY2024 (894,528 tested; 28,024 diagnosed). HIV positivity decreased each year from 4.7% (56,011/1,197,563) in FY2020 to 3.1% (28,024/894,528) in FY2024. The number of people receiving ART increased each year from 311,524 in FY2020 to 415,062 in FY2024, representing about 90% of the entire ART-experienced clients at country level (454,578 by mid-2024). VL coverage increased but remained suboptimal, ranging between 59.1% and 67.7%. Viral suppression increased from FY2020 (87.6%) to FY2024 (94.9%).

Conclusions: In collaboration with GRC, there was great success in the national AIDS response in Cameroon following PEPFAR's expansion. The programmatic indicators were characterized by declining HIV positivity even with declining HIV testing (which aligns with reductions observed in national HIV incidence estimates), and increases in ART coverage and viral suppression, which underscore progress towards achieving epidemic control in Cameroon. Additional efforts to improve VL coverage could confirm ongoing treatment success and support efforts to eliminate HIV by 2030.

WEPEC049

Contribution of HIV recent infection cluster investigation strategy in Closing Gaps of HIV testing: lessons learned and public health interventions in Rwanda

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Background: HIV recency testing is a methodology that differentiates between recent and long-term infections, offering valuable insights into transmission patterns and epidemic trends. Following the findings of the Rwanda Population-based HIV Impact Assessment (RPHIA), this approach was implemented in Rwanda in 2020 to address the 16% gap in HIV status awareness among adults. To better use recency testing data, ICAP supported Rwan-

da Biomedical Center (RBC) to introduce and implement both above and on-site HIV recent infection cluster investigation strategy. This abstract presents how the above-site cluster investigation strategy utilized recency testing data to trigger real-time public health response.

Description: The HIV recent infection cluster investigation strategy was implemented nationwide since 2020, leveraging on the case-based surveillance (CBS) data and Recency data to monitor sites with high numbers of recent HIV infections and low viral load suppression rates. According to Rwanda's cluster definition, a potential transmission hotspot is defined as a site with ≥2 RITA recent cases per facility per month. Identified hotspots triggered public health response activities, including rapid ART initiation, viral load suppression monitoring, index case testing, PrEP initiation, HIV self-testing, and social network testing to enhance program outcomes.

Lessons learned: Cluster investigation data from January 2020 to July 2024 identified 90 potential HIV transmission hotspots based on Rwanda's cluster definition. Among 215 index cases identified, 97%(205) initiated antiretroviral therapy (ART) on the same day. Partner notification services were offered and accepted by 93.7% (194/207) of eligible cases, yielding an index-to-contact elicitation ratio of 1:2.3. Of the 454 partners elicited, HIV testing coverage was 69.1% (282/408 eligible), resulting in a positive yield of 17.7% (50 HIV+), of which 24% (12) were RITA recent. However, only 5 of 28 eligible contacts initiated PrEP, highlighting the need to improve PrEP uptake.

Conclusions/Next steps: The implementation of The HIV recent infection cluster investigation strategy facilitated the identification of transmission hotspots and improved linkage to care through same-day ART initiation and robust partner notification.

The combination of HIV recency testing with other public health interventions like CBS has the potential to enhance partner engagement, improve access to PrEP and scale up targeted testing strategies.

WEPEC050

Eswatini prevention of mother-to-child transmission survey (E-PIMS)

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Background: Eswatini established ambitious targets for reducing Mother-to-Child Transmission rates of HIV to below 5% by 2030, aligning with the global commitment to the triple elimination of HIV, syphilis, and hepatitis B. Despite the program's nearly two-decade-long implementation, comprehensive data on its impact was limited.

The objective of the study was to determine the final mother-to-child transmission rates of HIV among children and associated factors in Eswatini.

Methods: The study was a prospective cohort design in which mother-baby pairs were enrolled at 6-8 weeks and followed up for a maximum of 24 months. The study was conducted in 51 health facilities, including private facilities, in Eswatini. Mother-baby pairs were followed up as part of the routine program as per the Eswatini PMTCT guidelines.

The mother-baby pairs were exited from follow-ups two months after cessation of breastfeeding. There were 4,611 mother-baby pairs, 1,761 HIV-positive and 2,474 HIV-negative.

The outcome of this study is the MTCT HIV transmission outcome at 24 months post-delivery.

Results: The MTCT rate was 1.34%. Half of the new child HIV transmissions emanated from either mothers who enquired HIV during breastfeeding or from mothers who did not receive ART during breastfeeding. Sources of transmission stacked bar

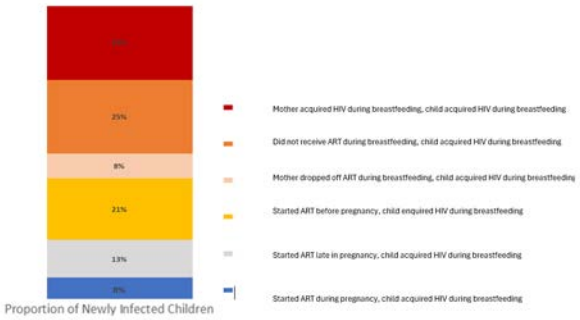


Figure.

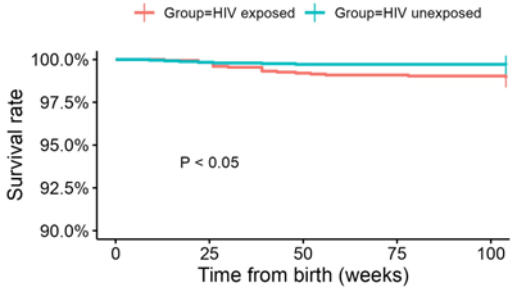


Figure. Survival rate.

Conclusions: This reduction underscores the effectiveness of the PMTCT program initiated in 2003. While substantial progress has been made, the program needs to strengthen strategies on PMTCT during breastfeeding and identify other potential socio-demographic, behavioral, and clinical risk factors that may influence MTCT risk and develop and implement targeted interventions specifically for high-risk populations.

Modelling the HIV pandemic

WEPEC051

Cost-effectiveness and impact of depression treatment implementation on HIV outcomes in western Kenya: a mathematical modeling study

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Background: In southern and eastern Africa, HIV is a leading cause of mortality, while depression is a leading contributor to morbidity. Depression increases HIV acquisition and impedes effective treatment, yet access to depression care remains limited.
We estimated the cost-effectiveness of psychotherapy for depression, and its impact on HIV outcomes, in western Kenya.
Methods: We adapted a previously validated HIV transmission model for Nyanza, western Kenya (EMOD-HIV), to include age- and sex-specific rates of depression incidence and prevalence. The model incorporated depression's effects on HIV: increased HIV incidence, reduced linkage to diagnostic tests, lower viral suppression outcomes, and higher ART dropout rates.
We assessed four depression screening and treatment strategies for adults (15+): community-wide screening; screening during HIV testing; people undergoing HIV screening; people living with HIV (PLHIV) receiving ART; and PLHIV receiving ART with unsuppressed viral load.
We assumed 100% specificity and sensitivity for screening and 65% treatment efficacy in reducing depression symptoms, and a US$14 cost of depression treatment.
We calculated incremental cost-effectiveness ratios (ICERs) as the cost of depression screening and treatment per disability-adjusted life-year (DALY) averted.
Results: Without depression treatment, we projected 136,000 new HIV acquisitions, 101,000 HIV-related deaths, and 8.84M episodes of depression between 2025–2035 in Nyanza. The community depression treatment strategy had the highest impact, averting 6.7% (95% CI 6.5–7.0%) of new HIV acquisitions, 3.9% (95% CI 3.7–4.1%) of HIV deaths, and 16.5% of depression episodes (95% CI 16.4–16.6%).
Depression screening and treatment for unsuppressed individuals on ART was the most cost-effective strategy at US$140 per DALY averted and (95% CI $134-$146) and US$517 per HIV-related DALY averted (95% CI $456–$592).
The next most cost-effective strategy was to expand to all PLHIV receiving ART (US$163 per DALY averted, 95% CI $159–$167), followed by community depression screening and treatment (US$185 per DALY averted, 95% CI $184–186). Screening during HIV testing was less cost-effective than the other strategies.
Conclusions: Integrating depression interventions into HIV care could substantially reduce HIV burden in southern and eastern Africa. Optimal expansion would initially focus on unsuppressed PLHIV and then expand screening/treatment to PLHIV on ART.

HIV prevention research

WEPEC052

Exploring adolescent girls and young women's perceptions of pre-exposure prophylaxis use: a qualitative synthesis of evidence from sub-Saharan Africa

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Background: Adolescent girls' and young women's perceptions of pre-exposure prophylaxis (PrEP), a biomedical HIV prevention method, significantly influence their decisions to initiate and continue its use, as well as their behavioural patterns while on PrEP. Their views shape how they intergrate PrEP into their daily lives and assess it value in managing their health and personal relatioship.
This systematic review study synthesises research on how AGYW perceive PrEP use in relation to their lives and sexual behaviour.
Methods: Electronic databases, including Embase, Medline, CINAHL, CABI, and PROQUEST, were searched for studies (May 2024-July 2024) that reported on actual, hypothetical perceptions of PrEP use among AGYW that are relevant to our review question. The PRISMA guidelines were used to direct the search, data collection, and report finding. Thematic synthesis was employed to synthesise data. The methodological quality of studies was evaluated using the Critical Appraisal Skills Program (CASP).This review used ENTREQ to guide the design and reporting of qualitative synthesis.
Results: Of the retrieved 3104 studies, 24 that met the inclusion criteria were carried out in 7 countries located in the SSA, which are South Africa, Uganda, Kenya, Malawi, Namibia, Zimbabwe, and Eswatini. Three paradoxical themes related to AGYW perceptions of PrEP use were found; these are protection and confidence, empowerment and agency, and risk compensation and behavioural concerns.

PrEP was perceived to empower AGYW by offering autonomy and confidence in sexual health, particularly when condom negotiation was unfeasible.
However, it often led to reduced condom use, increasing vulnerability to other risks like STIs and unintended pregnancies. Empowerment and agency about future health were undermined by stigma, secrecy, and relational challenges, with many fearing judgements for using PrEP.
Additionally, risk compensation behaviours, including condomless sex and multiple partnerships, further complicate the effective use of PrEP.
Conclusions: The findings from the systematic review highlight the complex and paradoxical perceptions of PrEP among AGYW, emphasising the need for comprehensive sexual health education and risk reduction counselling. These interventions are crucial to balancing and maximizing PrEP's benefits while mitigating potential risks.

WEPEC053

HIV incidence and use of pre-exposure prophylaxis among a large, national cohort of people with bipolar disorder

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Background: Bipolar disorder (BD) is a severe, chronic, and disabling mental illness characterized by periods of mania/hypomania and depression. People with BD have increased odds of acquiring HIV due to the impulsivity, grandiosity, and hypersexuality that characterize manic episodes. This is further exacerbated by systemic barriers to care including discrimination, care fragmentation, poverty, and housing instability. Utilization of highly-effective pre-exposure prophylaxis (PrEP) for HIV prevention among people with BD has not been systematically characterized.
Methods: We utilized the Merative MarketScan® Claims Database from 2010-2022 to identify people with bipolar disorder and without medical claims for HIV or pharmaceutical claims for antiretroviral medications. Restrictions were applied to account for presumed HIV post-exposure prophylaxis and HepB treatment.
Patients were followed in the database for the duration of available data following the index date, which was the date of initial diagnosis. We determined whether identified patients had outpatient encounters with primary care providers (PCPs) and/or psychiatrists.
Results: The cohort included 333,867 people with BD (61.9% female). There were 435 new HIV diagnoses. HIV diagnosis was more frequent among males (aOR=5.36 [4.27-6.72], p<.001) and those with BD and comorbid stimulant use disorder (aOR=2.56 [1.85-3.53], p<.001). HIV diagnosis was more common among people with BD receiving care only from psychiatrists compared to those following with PCPs only (aOR=1.58 [1.10-2.27], p=.01). There were 1,337 people with BD (0.40%) prescribed PrEP of any duration and 909 (0.28%) prescribed at least 3-months of PrEP. PrEP prescription was less common among people with BD following only with a psychiatrist (aOR=0.73 [0.56-0.97], p=.03) compared to only PCPs. Among people with ≥4 encounters for STIs, 3.53% (n=246) were prescribed PrEP of any duration and 2.73% (n=190) at least 3-months.
Conclusions: PrEP use among commercially-insured people with BD was critically low with <1% prescribed PrEP. Even among those with multiple encounters for STIs, <4% were prescribed PrEP, despite this being an indication for prescription. Engagement of people with BD in the PrEP care continuum is essential for ending the HIV pandemic, and integration of PrEP prescription with psychiatric care may represent an efficient method for increasing PrEP use.

WEPEC054

Safety and immunogenicity of vaccination with a synthetic DNA encoding native-like trimer alone and boosted with Env trimer 4571 for prevention of HIV-1: results from HVTN 304

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Background: Vaccination is critical to eliminate HIV transmission, and the HIV envelope (Env) is a key vaccine target. HVTN 304 examined the safety and immunogenicity of a synthetic DNA plasmid encoding a native-like Env trimer (NLT) with IL-12 ("INO6160"), either alone or in a prime-boost regimen with a recombinant protein HIV Env Trimer ("Trimer 4571") adjuvanted with 3M-052-AF + alum.
Methods: HVTN 304 is a two-arm, randomized, open-label phase 1 trial examining DNA only (T1, n=10) and DNA prime-boost with Trimer 4571 (T2, n=10) among adult par-

ticipants without HIV in the U.S. 2mg doses of DNA were administered intradermally with electroporation (EP) in both groups at months 0, 1, 3, and 6; 300mcg of protein in T2 were co-administered intramuscularly at months 3 and 6. Safety, reactogenicity, and immunogenicity were assessed with intracellular cytokine staining (ICS), binding antibody multiplex assays (BAMA), and electron microscopy polyclonal epitope mapping (EMPEM).

Results: 15 participants received injections per protocol. Three participants discontinued due to solicited adverse events (grade 3 erythema), and 1 participant discontinued due to EP device-related adverse event (AE).

No unsolicited AEs were deemed related to study product. ICS showed 100% response rates for Env-specific CD4+ T-cells expressing IFNγ or IL-2 in both groups.

Env-specific CD8+ T-cell responses were 75% in T1 vs. 50% in T2. BAMA response rates were 10% after second vaccination in the DNA-encoded trimer and Trimer 4571 groups, increasing to 62.5% in T1 and 100% in T2 after the fourth vaccination.

The fourth vaccination markedly increased titers in all T2 participants. ID80 autologous neutralizing antibodies (nAbs) to BG505/T332N were detected in one T1 participant (also detected at baseline). EMPEM showed nearly all antibodies were directed to the gp41 base and epitope-specific antibodies detected in one participant in each group after the fourth vaccination.

Conclusions: INO-6160 with EP alone or in a prime-boost regimen was safe. Although DNA did not produce autologous neutralizing antibodies, it induced cellular responses and vaccine-specific binding antibodies.

DNA offers an alternate platform to mRNA and should be considered as a priming vaccine for subsequent Env NLT boost vaccine trials with improved Env plasmid inserts.

WEPEC055

Mobile men: a key population requiring targeted HIV prevention efforts – insights from the Mobile Men trial in Uganda and South Africa

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Background: Men who travel for work face high HIV risk and challenges in engaging in prevention and care. We are conducting a long-acting injectable cabotegravir (LA-CAB) and oral tenofovir/emtricitabine (TDF/FTC) pre-exposure prophylaxis (PrEP) implementation trial among mobile men.

Here, we describe service implementation, mobility, HIV and sexual risk, and PrEP uptake in this population.

Methods: MOBILE MEN is a phase 3b, open-label, hybrid type 2 implementation and effectiveness trial comparing LA-CAB and TDF/FTC (daily and event driven) in men who travel for work. Rapid ethnographic assessments identified optimal recruitment sites and methods.

From August and November 2024, men were enrolled through mobile clinics in East London and KwaZulu-Natal, South Africa, which also provided diabetes and hypertension screening, and via referrals from fishing communities to a research clinic in Masaka, Uganda. At enrolment, HIV risk and mobility was assessed, and PrEP initiated on the same day.

Results: Of the 428 men screened, 28 were excluded: 18 (4.2%) were HIV positive (all engaged in care), and 11 were ineligible for other reasons. A total of 400 men (median age 32 years, IQR 25-39) were recruited over 75, 58 and 21 days across the three settings, respectively. Of these, 399 received same-day PrEP, while one participant in the LA-CAB arm declined the injection.

Participants reported high mobility: 235 (59%) had moved residence in the past 3 months, predominantly for work, with a median (IQR) of 4 (2-14) days spent outside their primary residential community in the past two months.

High-risk sexual behaviour was common, with 86% reporting condomless sex in the past two months, 67% reporting ≥2 sexual partners in the past month, and 55% and 11% reporting sex after alcohol and drug use, respectively. Sexually transmitted infections (STIs) were common, with 12% testing positive for either chlamydia or gonorrhoea, and 5% for syphilis.

Conclusions: The high recruitment rate, mobility, HIV prevalence with engagement in care, STI prevalence, and PrEP uptake demonstrate that mobile men at risk of HIV acquisition can be effectively reached and engaged in HIV services. The MOBILE MEN trial will further investigate retention in care in this population.

WEPEC056

Safety and pharmacokinetic profile of a combination of two HIV broadly neutralizing antibodies, 3BNC117-LS-J and 10-1074-LS-J, in healthy American and African adults

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Background: HIV prevention requires additional strategies to complement existing tools. We assessed the safety and pharmacokinetic profile of two HIV broadly neutralizing monoclonal antibodies (bNAbs).

Methods: A phase 1/2 double blinded placebo-controlled trial was conducted to assess safety and pharmacokinetics of 3BNC117-LS-J and 10-1074-LS-J, two HIV bNAbs targeting the CD4 binding site and the V3 loop region, respectively. HIV-uninfected adults aged between 18 and 45 years were randomized at 9 sites in the US and Africa to receive the two BnAbs either alone or in combination, intravenously or subcutaneously in the arm or abdominal area, in a single or multiple injections of different dose levels at baseline, week 12 and week 24.

Safety data included solicited and unsolicited AEs. Main PK profile assessed included longitudinal serum concentrations measured by Elisa and antibodies regimen administered subcutaneously that maintain a serum trough level of >10ug/ml in 80% of the population.

Results: From February 2020 through August 2023, three hundred forty-five individuals were screened and 184 participants (78 males, 106 females) were enrolled. Solicited adverse events were reported in 140 participants (76%) and were mostly mild to moderate in severity.

Two participants reported grade 3 administration site pain and 7 other participants reported grade 3 systemic events that resolved within 7 days of bNAbs administration. Two IP related unsolicited AEs of grade 3 were reported, including headache and dizziness both occurring in the subcutaneous injection group.

No related SAEs or potential immune mediated diseases were reported. Bioavailability of the 2 bNAbs was higher in the African study populations (10-1074-LS-J: 72% and 3BNC117-LS-J: 70%) compared to the US populations (10-1074-LS-J: 46% and 3BNC117-LS-J: 41%). 10-1074-LS-J showed a longer elimination half-life (Africa: 73.0 days; US: 85.5 days) than 3BNC117-LS-J (Africa: 61.5 days; US: 77.7 days) and was generally longer in US populations. Regimens maintaining a serum trough level of >10 ug/ml required a lower dose in African population.

Conclusions: Both 3BNC117-LS-J and 10-1074-LS-J have demonstrated an acceptable safety profile and there were no significant differences between administered dose levels, combinations and administration routes. Region of study participants (US vs Africa) was a major factor influencing the PK profile.

WEPEC057

Preferences for HIV PrEP choices and injectable PrEP delivery channels among pregnant and breastfeeding women in Malawi

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Background: Pregnant and breastfeeding women (PBFW) in Sub-Saharan Africa are at increased risk of HIV acquisition and this is contributing to new pediatric cases. Pre-exposure prophylaxis (PrEP) has been established as an effective HIV prevention method, although delivery has been a challenge.

This study sought to inform future scale-up by examining preferences for PrEP choices and injectable PrEP delivery channels among pregnant and breastfeeding women (PBFW) in Lilongwe and Blantyre, Malawi.

Methods: This cross-sectional, sequential mixed-methods pre-implementation study included a qualitative phase with in-depth interviews of 11 PBFW followed by a quantitative survey. The survey, incorporating discrete choice experiments (DCE), assessed preferences for injectable PrEP among 100 PBFW (50 each from Lilongwe and Blantyre). Qualitative data were analyzed using content analysis with a deductively developed codebook based on Consolidated Framework for Implementation Research (CFIR) domains and constructs in NVivo 1.7. In the DCE, participants were presented with up to 16 factorially

designed choice scenarios, with responses entered as individual data rows. Preferences for PrEP attributes were determined using multinomial logit regression modeling.
Results: Results showed a strong preference for private clinics (47%) over government clinics (2%) as the location for receiving PrEP, with the remaining 51% reflecting diverse preferences across other levels of the location attributes or trade-offs involving attributes like waiting time. Waiting time was a significant factor, as participants strongly preferred waits under an hour. Injectable PrEP was strongly preferred, with administration in the buttock being significantly preferred compared to the stomach. Concerns about side effects and safety, especially during pregnancy, influenced preferences, with some women expressing apprehension about the impact of PrEP on the baby. Despite these concerns, many participants favored integrating PrEP with other health services like contraceptives, seeing it as a comprehensive approach to health. Misconceptions about and stigma related to PrEP use were also identified as barriers to its uptake.
Conclusions: This study highlights the need to tailor PrEP services to PBFW preferences, including offering injectable PrEP in preferred settings, integrating PrEP with maternal health services, and addressing stigma and misconceptions. These measures are critical for enhancing PrEP uptake and reducing HIV incidence among PBFW in Malawi.

WEPEC058

Drop in HIV transmissions among people seeking PEP after the implementation of PrEP at Switzerland's largest sexual health clinic

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Background: People who qualify for non-occupational HIV Post-Exposure Prophylaxis (nPEP) following potential sexual exposure show one of the highest risks of contracting HIV in future sexual risk situations. HIV Pre-Exposure Prophylaxis (PrEP) should therefore be offered to people who qualify for nPEP.
This study aimed to evaluate the proportion of people who started PrEP after a nPEP event, and the differences in HIV seroconversions among nPEP users pre and post PrEP implementation.
Methods: We conducted a single-center retrospective review of medical records for individuals consulting for nPEP at Checkpoint Zurich, Switzerland's largest sexual health clinic from January 2013 to June 2024. Data on consultation numbers and outcomes were analyzed before and after the nationwide introduction of the SwissPrEPared program in 2019, which greatly enhanced access to PrEP for individuals at higher risk of contracting HIV in Switzerland.
Results: A total of 1349 individuals consulted for nPEP after potential sexual exposures, accounting for 1669 events. Sixteen HIV seroconversions were recorded, 37% of individuals were transitioned to PrEP, and 302 people (22%) were lost to follow-up. Annual nPEP consultations rose from 75 in 2013 to a peak of 215 in 2019, plateauing thereafter, although the total number of consultations continuously increased from 2013 to 2024. Notably, 14 of 16 seroconversions were seen in people whose nPEP event occurred prior to 2019. Among individuals consulting for nPEP during 2013–2018, 79 of 479 (16%) were transitioned to PrEP, compared to 415 of 870 (48%) during 2019–2024.



Conclusions: The implementation of PrEP under the SwissPrEPared program starting in 2019 coincided with a decline in HIV seroconversions among nPEP users and an increase in the proportion of individuals transitioning to PrEP post-event. This data suggest that expanded PrEP access effectively complements nPEP, reducing HIV transmission risk and enhancing preventive strategies for at-risk populations.

WEPEC059

Assessment of Pre-exposure Prophylaxis (PrEP) retention among key populations in Northern Nigeria: a retrospective cohort analysis

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Background: Pre-exposure prophylaxis (PrEP) is a critical intervention for HIV prevention, particularly among high-risk groups such as female sex workers (FSW), men who have sex with men (MSM), people who inject drugs (PWID), and incarcerated individuals. Despite efforts to scale up PrEP services, retention in PrEP programs remains challenging. This study examines PrEP enrollment and retention among KPs in two states in northern Nigeria.
Methods: This is retrospective cohort analysis of clients who initiated PrEP within the period 2022/2023, and outcome determined 2 years after in September 2024. Data were abstracted from the program database from the 2 study states. A client is classified as retained in PrEP if the client is still using PrEP consistently at the end of 2 years. Descriptive statistics with simple proportions were used to analyze categorical variables and binary logistic re-

gression models to analyze the association between various demographic, behavioral, and structural factors with retention.

Results: A total of 3,518 KPs records (FSW = 1,074, MSM = 812, PWID = 1,632) between 2022-2023 enrolled in PrEP were analyzed. By September 2024, only 414 participants (FSW = 71, MSM = 61, PWID = 282) remained yielding a retention rate of 11.8%. Retention was highest among PWID (17.3%, p = 0.019) compared to FSW (6.6%) and MSM (7.5%, p < 0.05). Older individuals (above 49 years) 18.5%; with employed individuals having highest retention, 15.2%: OR = 2.39, p = 0.002). PWID population (OR = 1.51, p = 0.019) and occupation have been identified as key predictors, while education level had no significant effect on retention. Barriers included stigma, access challenges, and socioeconomic instability, particularly among MSM. Conversely, community support and peer engagement were strong enablers of retention.

Conclusions: This study highlights the successful enrollment of large numbers of KPs in PrEP services. There is however very low retention among KPs in using PrEP. The findings point to the critical importance of devising innovative strategies to address individual and community-level barriers to sustain PrEP use, particularly among MSM. Similarly, the study has buttressed the impact of peer supports in ensuring retention on PrEP among KPs.

WEPEC060

Assisted partner notification as a strategy to enhance Pre-Exposure Prophylaxis (PrEP) screening and uptake – results from an urban STI clinic in Malawi

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Background: Biomedical pre-exposure prophylaxis (PrEP) prevents HIV acquisition but requires strategies to improve uptake among high-risk groups. Assisted partner notification (aPN), proven for HIV case-finding, offers a novel way to expand PrEP services to sexual partners of STI individuals.

This study explored the feasibility and outcomes of integrating aPN into PrEP programs at a STI clinic in Malawi.

Methods: Between March 2022 and January 2023, this prospective cohort study enrolled men and women presenting for STI services who were initiating PrEP (index PrEP user) and their referred sexual partners at Bwaila STI clinic, in Lilongwe, Malawi. Using World Health Organization-recommended aPN methods, recent (within last 6 months) sexual partners named by index participants were traced via phone or in-person.

We assessed demographic characteristics of index participants and referred partners, tracing outcomes, and PrEP initiation among partners.

Results: 174 index PrEP user participants were enrolled, most were male (109/174; 63%) with median age of 27 years (IQR 22, 32). Of these, 69 named 101 sexual partners, mostly female partners (57%). These partners were primary partners (53%), casual partners (41%), or sex workers (6%). Tracing efforts targeted 52 partners, with phone tracing yielding better results (57% contact success) compared to physical tracing (10% contact success). 58 partners (including those not traced) presented at the clinic for screening. Most presenting partners were female (39/58; 67%) and the median age was 28 years (IQR 23, 31). Among the presenting partners, 34/58 were eligible for PrEP, and 31/34 (91%) initiated PrEP. 55/58 presenting partners agreed to HIV testing with 36% testing positive for HIV. Among those who tested positive, 20% were newly diagnosed during the PrEP screening process.

Conclusions: aPN effectively identifies and links at-risk partners of persons initiating PrEP to HIV prevention services, achieving high rates of PrEP uptake among eligible presenting partners. Notably, phone tracing was more effective than physical tracing. This study highlights the potential of aPN in expanding PrEP access and strengthening HIV prevention efforts among persons seeking STI services.

WEPEC061

Characterizing latent profiles of young long-acting injectable PrEP users in Cape Town, South Africa

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Background: Effective HIV prevention requires products and services that meet specific needs of adolescent and young people (AYA) interested in pre-exposure prophylaxis (PrEP). This study explored how delivery methods and product preferences influence the choice between oral PrEP and long-acting injectable Cabotegravir (Cab-LA) among AYA.

Methods: The PrEPared to Choose (PtC) implementation study introduced, scaled-up and evaluated uptake of oral PrEP and Cab-LA from fixed-site and mobile clinics. Latent class analysis (LCA) classified participants based on PrEP demand generation methods, sexual behaviour, sex partner characteristics, prior PrEP use, and product preferences. Multinominal logistic regression analyzed factors associated with class memberships.

Multivariable logistic regression examined the association between latent classes and PrEP choice (injectable vs. oral).

Results: Between February and August 2024, 1152 participants (67% adolescent girls and young women) initiated PrEP, with 75% (n=863) choosing Cab-LA. Majority (70.2%) initiated PrEP at the mobile clinic. LCA identified three distinct participant groups.

Class 1, "curious risk-aware adopters" (19%) were PrEP naïve, uncertain about sex partner HIV status and support, reached through active outreach (social media or PrEP navigator) and prioritized product based on route of delivery.
Class 2 "exploratory lifestyle initiators" (62%) were PrEP-naïve, reached through passive outreach ("just saw the truck"), perceived sex partners as supportive of PrEP use, and prioritized lifestyle compatibility and convenience in PrEP choice.
Class 3 "cautious committed users" (18%) had prior PrEP experience, were uncertain about partner support, and prioritized product safety and efficacy.
Participants attending mobile compared to fixed-site clinics (aOR:2.62,95%CI:1.81–3.81) and "curious risk-aware adopters" compared to "cautious committed users" had higher odds of using Cab-LA (aOR:2.14,95%CI:1.27–3.62). AGYW had lower odds of choosing Cab-LA compared to male partners (aOR:0.59,95%CI:0.41–0.83).
The "exploratory lifestyle initiators" were equally likely to choose Cab-LA compared to the "cautious committed" users, however members of this class were less likely to be AGYW or have completed school.
Conclusions: PrEP delivery in community settings, such as mobile clinics, were highly effective in engaging AYA and facilitating Cab-LA initiation. However, AGYW were less likely to choose injectable PrEP, highlighting the need for targeted approaches to address barriers and ensure equitable access to PrEP.

WEPEC062

Evaluation of neutralization sensitivity of HIV-1 subtype C between lymph nodes, peripheral blood mononuclear cells and plasma derived viruses

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Background: There are genetic variations in the HIV-1 env single genome amplicons (SGA) derived from plasma, polymorphonuclear cells (PBMCs) and lymph node samples. However, the impact of these amino acid variations in the sensitivity of broadly neutralizing antibodies is not known.
Therefore, the aim of this study was to evaluate HIV-1 *env* sequence differences within bnAb epitopes and assess their neutralization sensitivity in HIV-1 subtype C between lymph nodes, PBMC and plasma-derived clones.
Methods: Full-length HIV-1 *env* was amplified from four HIV-1 subtype C infected ART naïve individuals selected from the FRESH cohort based in KwaZulu-Natal, South Africa. Single genome amplicons were produced from plasma, lymph nodes and PBMC samples, sequenced by Sanger sequencing and cloned into a TOPO 2.1 vector. Env-pseudotyped viruses were produced and the neutralization sensitivity was assessed against a panel of nine broadly neutralizing antibodies (bnAbs) targeting different epitopes. HIV-1 *env* sequences were analysed within bnAb epitopes and compared between lymph nodes, PBMC and plasma samples.
Results: A high frequency of discordant mutations was observed in the V2 and V3 loops, while few discordant amino acid mutations were observed in the conserved regions including the CD4 binding site, MPER and gp120-gp41 interface.
Discordant mutations were associated with the differences in neutralization sensitivity between viruses derived from plasma, lymph nodes and PBMCs. The highest number of resistant mutations were observed in the lymph node compartment.
Conclusions: Our findings suggest that amino acid variations in viral populations that are circulating in lymph nodes, PBMCs and plasma may lead to differences in neutralization sensitivity to broadly neutralizing antibodies. These findings may have implications in immunotherapy or vaccine development.

Integration of HIV services with other services, including sexual and reproductive health services

WEPEC063

Barriers to dual HIV and syphilis testing in low- and middle-income countries: lessons from ongoing program implementation in Zambia

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Background: HIV and syphilis testing have been part of Zambia's antenatal care (ANC) services but were historically conducted separately, leading to disparities in testing and treatment rates, with syphilis lagging behind. To address these gaps, Zambia is transitioning to integrated dual testing for HIV and syphilis within ANC services. Evidence Action (EA), in collaboration with the Ministry of Health (MOH), is scaling up dual testing in over 3,000 facilities nationwide.
Since the program's launch in December 2021, it has reached 1,100 facilities, covering approximately 50% of ANC-attending women.
Description: The program employs a structured training cascade to ensure comprehensive capacity building. Master trainers, including clinical, laboratory, and Monitoring & Evaluation cadres, were trained centrally on dual testing processes, data entry, and supply chain management. The training then cascaded through provincial, district, and facility levels, equipping Health Care Workers (HCWs) and Community Health Workers (CHWs) with the skills to conduct tests, interpret results, and address service delivery gaps.

To sustain quality, Technical Supportive Supervision (TSS) is conducted monthly at underperforming facilities, providing mentorship to data clerks and ANC and laboratory staff.

Lessons learned:

- Data Discrepancies: Integrating syphilis data into well-established HIV systems revealed errors. Mentorship and validation during TSS have mitigated this.
- Testing Quality: Collaboration with the laboratory department and TSS improved quality.
- Staff Transfers: Frequent movements disrupted training continuity. Refresher sessions and targeted training addressed gaps.
- Transport Challenges: Difficult terrains during the rainy season limited access to facilities. Using local trainers and scheduling around seasonal challenges improved coverage.
- Disease Outbreaks: Cholera disrupted training schedules; adaptive planning ensured continuity.
- Supply Chain Gaps: Redistribution minimized stock-outs, and mentorship improved Electronic Logistics Management Information System (eLMIS) reporting accuracy.

Conclusions/Next steps: Zambia's experience demonstrates the complexities of integrating dual testing for HIV and Syphilis in ANC. Regular TSS visits, laboratory collaboration, and supply chain monitoring have improved service quality. Zambia's experience underscores the importance of robust support systems, reliable supply chains, and effective data management for LMICs scaling integrated health programs.

Population-specific interventions for HIV prevention

WEPEC064

Community-based delivery of pre-exposure prophylaxis to adolescent girls and young women in the DREAMS Program in Zambia: an observational cohort study

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Background: Despite being at high risk of HIV acquisition, uptake of pre-exposure prophylaxis (PrEP) among adolescent girls and young women (AGYW) remains low in Zambia. We describe PrEP uptake and continuation among AGYW receiving differentiated HIV prevention services in 37 community-based Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS) Centres in 7 districts of Zambia, and examine behavioral, socio-demographic, and programmatic factors associated with PrEP continuity.

Description: We used individual-level, de-identified PrEP program data for AGYW aged 15-24 years enrolled in DREAMS from August 2022 to June 2024. Pearson's Chi-squared test was used to examine differences in beneficiary characteristics between clients with 1 PrEP visit and ≥2 PrEP visits, and mixed effects Poisson regression modelling to estimate the association between DREAMS enrolment criteria and PrEP continuation, and the association between components of the DREAMS package and PrEP continuation.

We also estimated the marginal probability of PrEP continuity. All analyses were performed using Stata (StataCorp LLC, College Station, TX, USA, release 18).

Lessons learned: From August 2022-June 2024, 15,502 AGYW enrolled in DREAMS were screened for PrEP. Of these, 15,072 (97.2%) were eligible, and 9,675 had sufficient follow-up time and complete data to be included in the analysis. The proportion of AGYW who had ≥1 PrEP visit within 180 days of initiation was 59.0% (n/N=5,706/9,675). In adjusted multivariate regression analysis, having a return PrEP visit was associated with being older (20-24 years) (prevalence ratio [PR] 1.23, 95% confidence interval [CI]:1.07,1.42), and convenience of access (living near the DREAMS center) (p≤0.001).

The probability of having a PrEP continuation visit within 6 months varied significantly by number of risk factors assessed at DREAMS enrolment. For instance, AGYW aged 15-19 years reporting ≥4 risk factors (91.7%, 95% CI: 41.2, 64.1) were significantly more likely to return for a refill than those reporting one risk factor (52.7%, 95% CI: 70.7, 112.7%).

Conclusions/Next steps: Community-based differentiated service delivery is crucial to expand and sustain the provision of PrEP to AGYW. Moreover, additional beneficiary-responsive wrap-around interventions are needed to motivate AGYW to remain on PrEP. Crucially, improving AGYW HIV risk awareness is vital to improve PrEP continuity.

WEPEC065

HIV/AIDS in West Africa: a thematic analysis of the Global Burden of Disease study 2021

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Background: The HIV/AIDS epidemic continues to burden sub-Saharan Africa, with West Africa exhibiting complex regional trends that influence both the scale and response to the epidemic. The Global Burden of Disease (GBD) Study 2021 published 2024 provides tactical information into the prevalence, mortality, and incidence of HIV across 204 countries, including the diverse nations of West Africa. While significant strides have been made globally in reducing HIV-related deaths, West Africa presents distinct challenges shaped by sociocultural, economic, and healthcare factors. This thematic analysis explores key patterns identified in the GBD study.
Methods: This study integrates data from the GBD 2021 study with region-specific reports, secondary data analysis, and qualitative insights to contextualize HIV trends in West Africa. Key themes derived from the GBD data - such as youth and gender disparities, prevention gaps, and urban-rural healthcare access - are explored through a socio-epidemiological lens. This comparative analysis spans the years 1990-2021, incorporating projections to 2050.
Results: Our findings show a striking persistence of HIV incidence and mortality, particularly among young people and marginalized populations. Despite global declines, West African nations like Nigeria, Côte d'Ivoire, and Ghana exhibit stagnation or slower progress in reducing HIV mortality, with disparities linked to healthcare access, gender inequality, and regional stigma. The urban-rural divide further compounds these challenges, with urban centers benefiting from greater healthcare access, while rural areas face significant barriers.
Additionally, gaps in prevention strategies, such as low uptake of PrEP and VMMC, highlight a critical need for tailored interventions. Forecasts through 2050 suggest that without significant policy shifts, HIV-related deaths and new infections will continue to disproportionately affect younger populations and key risk groups.
Conclusions: This thematic analysis highlights the need for a more balanced approach to HIV prevention, treatment, and care in West Africa. Tailored interventions, including improved access to PrEP, ART, and youth-focused education, are essential for mitigating the ongoing impact of HIV in the region.
The findings emphasize the importance of addressing systemic barriers, such as stigma, cultural attitudes, and inadequate infrastructure, to achieve sustainable HIV responses.

HIV testing

WEPEC066

Lack of community-based TB and HIV integrated services as a potential factor for gaps in HIV testing among presumptive TB cases in Mozambique: a 3-year retrospective cohort study

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Background: The World Health Organization's framework for TB and HIV collaborative activities recommends offering HIV testing services to people with presumptive TB (PP-TB). Despite well-integrated TB and HIV services at the facility level, significant gaps remain in HIV testing among PP-TB at both community and facility levels. This study aimed to estimate gaps in HIV testing among PP-TB within the community-based TB screening cascade.
Methods: We analyzed aggregated data from a retrospective cohort study of clients screened through community-based TB interventions and tested for TB in four high TB burden provinces from 2021 to 2023. Aggregated TB data were extracted from the Mozambique Local TB Response electronic reporting system. To estimate gaps in HIV testing among PP-TB, we performed a care cascade analysis and descriptive statistics were used to present the data.
Results: 4,607,257 clients were included, from whom 52% were female and 62% were aged 15 years and older, and 83% were reached through door-to-door visits. Of the 4,607,257 clients screened for TB, 9% were identified as PP-TB, of whom 85% were referred to facilities, and 97% successfully reached facilities, and 96% of those reached facilities underwent further examination. Of those examined, 22% were diagnosed with TB, and 85% were notified and initiated on anti-TB treatment. Three levels of gaps in HIV testing were identified: (i) community TB actors lack the skills and authorization for HIV counseling and testing; (ii) among PP-TB who were declared TB-free but had unknown HIV status, 76% were not tested for HIV; and (iii) clients diagnosed with TB, 17% of those with unknown HIV status were not tested for HIV. The overall gap in HIV testing across these levels was estimated at 84%.
Conclusions: While community-based TB interventions are strengthening the country's TB control efforts, the lack of guidelines and policies authorizing community TB actors to perform HIV testing has led to significant gaps in testing for HIV among PP-TB. Bidirectional integration of TB and HIV testing is a potential sustainable solution to ensure the timely diagnosis and treatment of individuals with TB and HIV co-morbidities

WEPEC067

Uptake of HIV testing among adolescents and young adults in Nigeria: a secondary observational analysis of a stepped-wedge, cluster-randomized trial

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Background: Adolescents and young adults (AYA) in Nigeria who engage in multiple sexual partnerships, transactional sex, or needle-sharing are eligible for pre-exposure prophylaxis (PrEP) and are prioritized for HIV testing. HIV testing can link PrEP-eligible AYA to HIV services; however, little is known about HIV testing in these populations. We examined associations between these behaviors and two HIV testing modalities – facility-based and HIV self-testing (HIVST).

Methods: We analyzed data from Innovative Tools to Expand Youth-friendly HIV Self-Testing (I-TEST), a stepped-wedge trial examining the impact of a combination intervention package on HIVST among AYA aged 14 – 24 years in Nigeria. We fit generalized linear models, with an identity link and a binomial error distribution, using generalized estimating equations. We used a two-stage weighted approach to generalize I-TEST estimates to all AYA in Nigeria.

Results: Of 1,429 participants, the median age was 20 (IQR: 18 – 22), 50.3% were female, and 69.4% reported secondary school as their highest education level completed. Recent facility-based HIV testing uptake was higher among AYA with one (cRD: 11.7%, 95% CI: 8.1, 15.2), two (11% (5.3, 16.8)), and three or more sexual partners in the past three months (17.3% (10.5, 24)) compared to AYA with no recent sexual partners, while HIVST was higher for one (2.4% (-0.3, 5)), two (0.1% (-5.6, 5.9)), and three or more sexual partners (2% (-3.3, 7.2)). AYA who engaged in transactional sex had higher facility-based testing (14.7% (9.8, 19.5)) and HIVST (8.1% (4.8, 11.5)) uptake than AYA who never engaged in transactional sex. AYA who shared needles had lower facility-based testing (-3.3% (-6.7, 0.2)) and higher HIVST (2.1% (-0.4, 4.6)) than AYA with no needle-sharing history. The estimates were similar in adjusted models. Apart from AYA with two recent sexual partners who had lower HIVST uptake, the generalized and trial estimates were in the same direction.

Conclusions: While facility-based testing may reach AYA engaged in multiple sexual partnerships or transactional sex, AYA who share needles may require more tailored HIV testing approaches. Intensifying HIVST strategies for people engaging in these behaviors may ensure we identify AYA living with HIV and all AYA with greatest need for PrEP.

WEPEC068

Enhancing HIV case finding using Social Network Strategies (SNS) among key populations (KPs) and Priority Populations (PPs) in Shinyanga, Tanzania under the EpiC Project

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Background: Community-based HIV testing services are vital for reaching KP; Female Sex Workers (FSW) and Men who have Sex with Men (MSM), Priority populations (PPs); Adolescent Girls and Young Women (AGYW) and miners. SHDEPHA+ through EpiC Project used peer-led mobile testing and SNS to maximize HIV case identification. SNS leveraged social networks to identify HIV risk individuals from peers with similar risks. This tailored approach bridged gaps in traditional mobile HIV testing modalities focusing on risk networks for KPs and PPs. Despite these efforts, challenges in achieving optimal case identification persist, hindering progress toward the UN's 95-95-95 targets.

Description: Between October 2023-September 2024, the EpiC Project employed two SNS approaches; Enhanced Peer Outreach Approach (EPOA), that incentivize coupon distribution to risk individuals from KPs and PPs networks, and Risk Network Referral (RNR), where healthcare providers work with risk individuals to elicit risk networks. The program adhered to ethical guidelines, ensuring confidentiality and cultural sensitivity to build trust among individuals. HIV testing was offered following the coupon redeemed and reaching of elicited networks. HIV nega-

tive Individuals were offered condoms and PrEP service while HIV positive individuals were enrolled to Antiretroviral therapy (ART).

Lessons learned: 25,891 individuals were tested under mobile testing, yielding 337 (1%) of new HIV cases. SNS tested 1,549 (345 through EPOA and 1,204 through RNR) yielding 110 (7%) of new HIV cases were 19 (5.4%) and 91 (7.6%) HIV cases were through EPOA and RNR respectively. 36% and 64% of the SNS HIV testing positive were from KPs and PPs respectively and all were enrolled to ART. SNS approaches proved its effectiveness for identifying hidden populations, while peer-driven incentives enhanced participation in EPOA.

Conclusions/Next steps: This evidence demonstrates that SNS improves case identification among high-risk populations who lack health-seeking behaviors and are difficult to reach due to high mobility. It aids in early HIV diagnosis and ART initiation, ultimately reducing HIV prevalence and transmission. To scale the impact of SNS, increased funding and integration into national HIV testing strategies are essential. Policymakers should prioritize the adoption of SNS as a sustainable approach for achieving the UN's 95-95-95 targets in underserved regions.

Cascades of HIV prevention, treatment and care

WEPEC069

Progress towards the 95-95-95 targets among men who have sex with men: a respondent driven sampling survey in Rwanda 2024

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Background: UNAIDS set 95-95-95 targets to aid the monitoring of progress towards ending the HIV/AIDS as a public health threat by 2030. We assessed the progress towards achieving the UNAIDS targets among MSM along with factors associated with achieving these targets.

Methods: The study analyzed bio-behavioral survey data conducted from May-July 2024 among MSM across 10 study sites in all 5 provinces using Respondent Driven Sampling (RDS). Participants aged 18+ years, who self-reported anal sex with a male partner in the past 12 months, resided in the survey area for at least 3 months, and who consented to participate in the interview and HIV, syphilis, and hepatitis B and C testing were recruited in the study. Ethical approval was obtained. RDS Analyst was used to compute weights, and STATA 17 to conduct bivariate and multivariate logistic regression. Socio-demographic, drug use, alcohol consumption, and Pre-Exposure Prophylaxis (PrEP) awareness and use variables were included in the models. Data were weighted using Gile's Sequential Sampling estimator, and weighted estimates were computed for each study site independently. Aggregated weighted estimates, at the national-level, and unweighted numerators are presented

Results: The study recruited 3,757 MSM with a median age of 27 years. More than half (n=1,944; 55.7%[95%CI:52.9–58.5]) had completed secondary school, and 1,895 (48.7% [45.9–51.5]) had ever heard of (PrEP). Of those, 93% [90.4–94.9] were those diagnosed HIV negative and 90.6% [85.9–93.9] of them had ever used PrEP.

Overall, HIV prevalence was 5.8% [4.6-7.8], and 70% [56.9-80.6] of MSM living with HIV knew their HIV status. Of these, 95.3% [88.5-98.1] were on antiretroviral therapy (ART), and all those on ART were virally suppressed (100%). Completing advanced secondary level of education was positively associated with awareness of HIV status [aOR=5.86, (1.17-29.24)].

Conclusions: HIV prevalence (5.8%) was disproportionately higher among MSM compared to the general adult male population in Rwanda (2.2%), with high PrEP usage. However, there was 25-percentage point gap in reaching the UNAIDS first 95 target among MSM, highlighting a need for appropriate approaches to identify MSM living with HIV but unaware of their status.

WEPEC070

Going beyond data: the back in care (BIC) initiative to return lost HIV infected clients to care in Rwanda

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Background: The BIC initiative launched in 38 AHF supported sites in Rwanda from september 2023 to august 2024 aimed to address the issue of people living with HIV (PLHIV) who were no longer in care (Lost to follow up (LTFU), transferred out and relocated). In 2023, AHF sites worldwide reported 238,660 new HIV cases and 130,000 individuals falling out of care.

Specifically, AHF Rwanda documented 1,168 PLHIV as NLIC from January to August 2024 which consisted of 512 LTFU, 522 transferred out and 12 relocated. Retaining PLHIV in care is essential to reduce morbidity, mortality and transmission.

Methods: The BIC initiative began by systematically reviewing medical charts of NLIC clients across 38 AHF-supported sites. Each month, sites used to report NLIC cases, but prior to the initiative, there was little engagement with these clients.

The BIC intervention consisted of several key steps:
1. The Monitoring and Evaluation team compiled a list of NLIC clients,
2. This list was provided to retention team for telephonic outreach,
3 If clients or their relatives were contacted, they were counseled and invited back into care,
4. Those not reachable by phone were referred for community tracking,
5. Clients who returned were given the contact details of a BIC champion at the facility,
6. The BIC champion communicated with these clients to set convenient appointments,
7. Reception staff was informed to provide a warm welcome during morning huddles,
8. Upon arrival, the BIC champion welcomed clients, registered them and explored reasons for their absence,
9. A RVs were re-initiated and appropriate treatments for opportunistic infections were provided,
10. BIC experiences were then shared in multidisciplinary team meetings .

Results: The charts of 1,872 NLIC clients were reviewed and1,541 (82.3%) were successfully contacted through phone calls (69%) and community efforts (31%). Ultimately, 616 clients (32.9%) returned to care. Close follow-ups contributed to 514 (83.4%) of them remaining in care after one year.

Conclusions: Most of NLIC clients remain contactable and are willing to return to care with an effective tracking programme such as BIC. BIC must be integrated among other strategies used in HIV services.

WEPEC071

Enhancing retention in HIV treatment through differentiated service delivery: an observational cohort of key populations on HIV treatment in 7 districts of Zambia

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Background: While Zambia has achieved the UNAIDS 95-95-95 targets, sustaining this success requires consistent retention in care. The USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP) I project implements a differentiated service delivery (DSD) model in which key populations (KP) - female sex workers (FSW), men who have sex with men (MSM), transgender people (TG) and people who inject drugs (PWID) - receive HIV treatment services at community-based KP Wellness Centres and through referrals to static Ministry of Health (MoH) facilities. This analysis examines retention outcomes for KP receiving care at Wellness Centres compared to MOH facilities in 7 districts of Zambia.

Description: This observation cohort analysis evaluated 12-month (October 2023 to September 2024) retention rates among KP initiated on HIV treatment between October 2022 and September 2023. Data were disaggregated by KP type to determine retention rates. For those not retained, treatment outcomes were categorised as died, lost to follow-up (LTFU), transfer out, or stopped treatment.

Lessons learned: Retention rates were significantly higher among KP accessing treatment at Wellness Centres compared to MOH facilities. Overall retention rates at KP Wellness Centres was 90% (565 initiated, 511 retained) - 90% for FSW (393 initiated, 358 retained), 89% for MSM (133 initiated, 118 retained), and 90% for TG (39 initiated, 35 retained). At MOH facilities, overall retention rate was 61% (1,388 initiated, 885 retained) -66% for FSW (878 initiated, 580 retained), 59% for MSM (394 initiated, 234 retained), and 61% for TG (116 initiated, 71 retained).
Among those not retained, Wellness Centres had 54 (10%)— 2 deaths, 14 LTFU, 19 transfer out, and 19 undocumented outcomes, while MOH facilities had 503 (36%)— 18 deaths, 181 LTFU, 175 transfer out, and 129 undocumented outcomes.

Conclusions/Next steps: The higher retention rates observed among KP receiving treatment at Wellness Centres highlights the effectiveness of community-based differentiated service delivery (DSD) models in providing convenient, client-centered, stigma-free treatment services. Our analysis underscores the need to strengthen collaboration with government health facilities, focusing on improved tracking and documentation of KP in care to sustain long-term treatment retention and enhance HIV care outcomes.

WEPEC072

Prevalence and determinants of late presentation to HIV care among people living with HIV newly enrolled in care in Rwanda: a retrospective cross-sectional study in AHF Rwanda-supported Health facilities

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Background: Late presentation (LP) to HIV care not only predisposes to poor treatment outcomes and increased healthcare cost, but also eliminates the advantage of treatment as prevention. In sub-Saharan Africa about 30-50 % of people enrolling in care are late presenters. In Rwanda, despite universal access to free HIV diagnostic and care, many individuals are still presenting late. AIDS Healthcare Foundation (AHF)- Rwanda conducted a study to determine the prevalence of late presentation and its associated factors.
Methods: This was a retrospective cross-sectional study conducted in 38 AHF-supported health facilities in Rwanda. Data of PLHIV newly enrolled in care from July 2023 to June 2024, were extracted from electronic medical record (EMR), and analyzed to measure the prevalence of Late presentation and its associated socio-demographic factors. LP was defined as CD4 less than 350cells/mm. WHO clinical staging was not used. Descriptive statistics, Pearson's Chi-squared test and binary logistic regression were performed to determine the prevalence of LP and associated factors.
Results: Data from 2472 PLHIV were analyzed, with a median age of 34 years (IQR,28-41), and 63.7% were females. The overall prevalence of LP to HIV care was 33.3%, highest in Kigali City (38.2%) and Southern province (36.8%), and lowest in Western province (22.2%). LP was more prevalent in males (38.9%) than females (30.1%), and it increased with age, from 16.7% among those aged 0 to 14 years to 40.9% for those aged 45 years and older. Age (X^2=43.0132, p=0.000), and gender (x^2=19.9836, p=0.000) were significantly associated with LP.
Multivariate logistic regression revealed an increased risk of LP from individuals aged 25-34 years (AoR=2.1. p=0.047) to those aged 45+ years (AoR=3.4, P=0.001) compared to the under 15 years. Males were 1.3 times more likely to present late compared to females (AoR=1.3, p=0.001).
Conclusions: Late presentation to HIV care remains a challenge in Rwanda with a prevalence of 33.3%, the City of Kigali recording the highest prevalence. Male gender and older age groups are the key predisposing factors. Community engagement initiatives for early HIV diagnosis and enrollment in care focusing on older males in high-prevalence settings are crucial to address this challenge.

WEPEC089

Closing the gap in pediatric HIV care: impact of a case management approach in an OVC program on viral load suppression in Mashonaland West, Zimbabwe (2022–2024)

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Background: Zimbabwe has made progress in adult HIV treatment but still faces challenges in pediatric care. While adult viral load suppression reached 90% by 2020, children lagged at 72% (National HIV Estimates, 2021). The 2023 HIV Spectrum Estimates showed overall virologic suppression at 96%, but 86% for children. This disparity increases morbidity and mortality risk, threatening Zimbabwe's goal to end AIDS by 2030. Barriers include insufficient adherence support, poor care linkages, and inadequate follow-up.
In response, the Hospice and Palliative Care Association of Zimbabwe initiated the OVC Program in 2022, funded by PEPFAR through USAID, employing a case management model to improve pediatric HIV care.
Description: The case management model utilizes a multidisciplinary team of case managers and community child care workers to develop individualized care plans and provide comprehensive services, including home visitations, adherence support, HIV treatment literacy, clinic appointment reminders, viral load monitoring referrals, support groups, and case conferencing. The model was implemented across 143 health facilities in the Chegutu, Hurungwe, Makonde, and Zvimba districts. Viral load data were collected annually from program participants from 2022 to 2024. A Cochran-Armitage trend test assessed changes in viral suppression over time with statistical significance set at $p < 0.05$.
Lessons learned: The program enrolled 5,669 HIV-positive children. Over three years, viral load suppression improved remarkably: 91% in 2022, 92% in 2023, and 96% in 2024. A Cochran-Armitage trend test revealed a statistically significant increasing trend ($p < 0.05$). The improvement was attributed to support for adherence, empowerment of caregivers, and strengthened community-facility linkages. These results highlight the effectiveness of case management model in addressing barriers to treatment adherence and retention in care.
Conclusions/Next steps: The implementation of case management in Mashonaland West, Zimbabwe, has demonstrated significant success in improving viral load suppression among HIV-positive children. This strategy addressed key challenges to treatment adherence and care through targeted interventions and strengthening community-facility linkages. The model has proved to be a scalable and effective strategy.

These findings underscore the potential of adopting case management approaches in pursuit of the global objective to end AIDS by 2030, particularly in addressing gaps in pediatric HIV care.

WEPEC090

Treatment interruption surpasses virological failure as barrier to HIV viral suppression in sub-Saharan Africa (2020-2023)

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Background: Despite widespread antiretroviral therapy (ART) access in sub-Saharan Africa, achieving and maintaining population-level viral load suppression (VLS) remains challenging. The relative effect of in-treatment virological failure (VF) versus interruption in treatment (IIT) for unsuppressed viral load (UVL) is not well understood.

Methods: We analyzed data from 16,850 ART-experienced people living with HIV aged ≥15 years who self-reported ≥4 months on ART in population-based HIV impact assessments (PHIA) across 7 sub-Saharan African countries (2020-2023). We defined three outcomes: VLS: <1,000 copies/mL per WHO criteria; VF: ≥1,000 copies/mL with detectable antiretrovirals; and IIT: ≥1,000 copies/mL without detectable antiretrovirals. We used Poisson regression to identify factors associated with VF and IIT.

Results: Among ART-experienced participants, 74.8% achieved VLS, while 3118 (25.2%, 95% confidence interval (CI): 24.0-26.6%) had unsuppressed viral load (UVL), with rates ranging from 11.4% in Eswatini to 36.5% in Mozambique. Among those with UVL, IIT (21.6%, 95% CI: 20.4-22.9%) was nearly sixfold more prevalent than VF (3.6%, 95% CI: 3.2-4.1%).

Younger adults (aged 15-29 years) had a significantly higher likelihood of both VF (adjusted prevalence ratio [aPR]: 2.8, p=0.007) and IIT (aPR: 42.0, p<0.0001) compared with those aged ≥60 years; men had a higher risk for VF (aPR: 1.5, p=0.02) and IIT (aPR: 1.5, p=0.046) compared to women. Self-reported suboptimal adherence (missing ≥2 doses in the past 30 days) doubled the likelihood of both VF (aPR 2.2, p<0.0001) and IIT (aPR 1.9, p=0.008), while non-dolutegravir regimens, especially those containing nevirapine (aPR 6.2, p<0.0001) or lopinavir (aPR 5.9, p=0.001), were associated with increased VF.

Variable	Viral Failure (aPR†)	p-value	ART Interruption (aPR)	p-value
Male	1.5	0.017	1.5	0.046
Female	Reference	–	Reference	–
Efavirenz	4.1	<0.0001	NA	NA
Nevirapine	6.2	<0.0001	NA	NA
Atazanavir	3.3	0.01	NA	NA
Lopinavir	5.9	0.001	NA	NA
Dolutegravir	Reference	–	NA	NA
Suboptimal ARV adherence	2.2	<0.0001	1.9	0.008
Optimal ARV adherence	Reference		Reference	

Table 1. Factors Associated with VF and IIT Among PWH on ART for ≥4 Months

Conclusions: IIT, rather than VF, primarily drives UVL in these settings. Programs should prioritize preventing care disengagement and enabling rapid re-engagement, especially among young adults and men, while expanding access to dolutegravir-based regimens to reduce VF.

Social science theories, frameworks, concepts and methods

WEPED073

Exploring drivers of preference for implantable and injectable interventions as pre-exposure prophylaxis (PrEP) novel drug delivery forms among cisgender men-who-have-sex-with-women-only (MSW) and men-who-have-sex-with-men- (MSM) in South Africa

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Background: Men play a critical role in the cycle of HIV transmission. Their perspectives on and experiences with novel drug delivery platforms for PrEP are crucial to helping develop acceptable HIV prevention methods. Efforts to target and engage men have been inadequate, and to fill this niche, we explored factors influencing attitudes,

experiences and preferences for use of two placebo long-acting delivery platforms, implants and injections, among MSW and MSM as part of the SAMURAI study.

Methods: Between July 2022 and June 2023, SAMURAI enrolled 184 MSW and MSM in Johannesburg and Cape Town, South Africa. During this randomized crossover study, participants used each of two placebo delivery methods (bimonthly intralipid intramuscular injections and a subdermal implant rod) for six months each.

Men rated acceptability of each product after use and stated preferences after using both. This analysis used Chi-squared tests to examine sociodemographic factors and product feature acceptability associated with preferring the implant over the injection.

Results: There were 153 participants (83%) with final product preference assessment: 74 (48%) preferred the implant, 73 preferred injections (48%), 6 (4%) had no preference/were not sure. Preference for implant was associated with older age (34% 18-20 yr olds vs 53% of 21-35 yr olds, p=0.04); perceived ease of use (55% thought it 'very easy' to use vs. 28% did not, p=0.004); and acceptability of the implant's physical impact on the body (51% of those who found the implants impact on the body acceptable preferred the implant vs 20% who found the impact unacceptable, p=0.02).

Conclusions: The equal distribution of preferences, with 48% of participants favoring the implant and 48% favoring the injection, suggests that both products were well received. These data highlights willingness among men to explore use of new drug delivery methods.

While the results indicate several differences characterizing preference for future use of these two long-acting delivery forms, the findings also suggest potential benefits of exploring active drug delivery in long-acting delivery forms and expanding PrEP options for men.

Social and behavioural aspects and approaches to HIV prevention and living with HIV

WEPED074

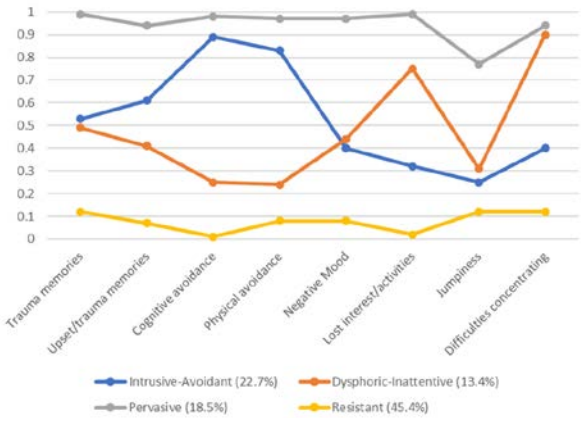
Associations between latent classes of PTSD symptoms, HIV care outcomes, and substance use among sexually minoritized men living with HIV in the United States

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Background: Sexually minoritized men (SMM) with HIV in the United States (US) are disproportionately burdened by trauma, posttraumatic stress disorder (PTSD), and related sequelae. However, there has been limited study of PTSD symptom patterns and HIV care and substance use outcomes in this population.

Methods: Using online, cross-sectional, nationwide data from the American Men's Internet Survey (2020-2021), we performed latent class analysis on responses to a PTSD symptom scale to identify PTSD symptom classes among trauma-exposed SMM with HIV (N=597). We performed multinomial logistic regression and the manual Bolck-Croon-Hagenaars method to determine sociodemographic associations with latent class membership and assess class-specific HIV care (non-uptake of ART) and substance use outcomes (high-risk alcohol use, monthly marijuana use, monthly hard drug use), respectively.

Results: Participants' mean age was 44 years, with 46% (n=277) white, 33% (n=199) Black, and 14% (n=85) Hispanic. Latent classes are in the Figure.



Compared to white participants, Black participants were more likely to fall into the Intrusive-Avoidant relative to the Dysphoric-Inattentive class (aOR=4.13, 95% CI=1.04-16.41); unstably housed participants were more likely to fall into the Pervasive relative to the Resistant class (aOR=2.16, 95% CI=1.03-4.54).

Non-uptake of ART (9.6% vs 1.9%; p<0.05) and monthly hard drug use (19.6% vs 2.3%; p<0.01) were higher in the Pervasive relative to the Resistant class. Monthly marijua-

na (29.8% vs 17.4%; p<0.05) and high-risk alcohol use (23.5% vs 10.8%; p<0.05) were higher in the Intrusive-Avoidant relative to the Resistant class.

Conclusions: Among SMM with HIV in the US, PTSD symptoms diversely manifest and differentially shape ART uptake and substance use behaviors.

Integrating comprehensive interventions that target both PTSD symptoms and substance use into extant systems of HIV care is needed; intervention-tailoring to PTSD symptom classes may likewise be indicated.

Addressing trauma and related sequelae is crucial to optimizing HIV care and helping SMM live well with HIV.

WEPED075

Combining primary and secondary HIV prevention in the Dominican Republic: understanding need and acceptability of partner-based PrEP among sero-discordant partners

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Background: The Dominican Republic (DR) has the highest HIV prevalence in Spanish-speaking Latin America, with individuals living with HIV (PLHIV) experiencing challenges in viral suppression, fueling onward transmission of HIV. Partner-based referrals is a cornerstone of HIV/STI care globally and is among the more feasible approaches for prevention and treatment; however, it is used less for pre-exposure prophylaxis (PrEP). PrEP is available in ~50% of public HIV clinics in the DR with availability increasing; uptake remains very low.

We sought to understand PrEP knowledge and preliminary acceptability of partner-based PrEP services among PLHIV experiencing adherence challenges enrolled in an ongoing food and adherence support trial.

Methods: We collected baseline data from 306 adult PLHIV enrolled in *ProMeSA* (Project to Improve Food Security) across twenty pair-matched clinics providing HIV care across the DR. *ProMeSA* includes urban gardening support and nutritional counseling for PLHIV. All enrolled PLHIV had evidence of adherence challenges (e.g. missed refills, virally non-suppressed), and had food insecurity.

The baseline survey included a module on PrEP knowledge, partner status, interest in partner-based PrEP, and knowledge of Undetectable=Untransmissible (U=U).

Results: Median age was 45 and median years living with HIV was 6.8; 74% self-identified as female, 90% were Dominican and 10% were Haitian; two-thirds were virally non-suppressed. Most (83%) had never heard of PrEP and 33% had a sero-negative or sero-unknown status partner (26% were sero-concordant).

Over two-thirds of those with sero-negative/unknown partners (69%) reported never being offered PrEP for their partners; just 2 reported partners currently taking PrEP. While 79% of those in sero-discordant partnerships would "greatly support" a partner taking PrEP, many felt somewhat (31%) or very (31%) uncomfortable discussing PrEP with HIV-negative or status unknown partners.

Among all participants, 21% percent completely and 11% somewhat disagreed with the premise of U=U.

Conclusions: Among PLHIV with adherence challenges, knowledge of PrEP – and known use among their partners – was low. Participants in sero-discordant partnerships reported hesitancy in initiating conversations about PrEP with their partners even when supportive of PrEP in theory. More research is needed to determine how to engage PLHIV with adherence challenges in partner-based PrEP to interrupt onward transmission of HIV.

WEPED076

Managing pill burden, fatigue, and pronounced NCDs to maximize ART outcomes in aging diverse persons living with HIV

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Background: Aging persons living with HIV (PLHIV) face compounded health challenges, including pronounced non-communicable diseases (NCDs) such as hepatitis, diabetes, cancers, menopause, and andropause. These conditions exacerbate pill burden and fatigue, compromising adherence to antiretroviral therapy (ART) and overall health outcomes.

To address this, Trans Smart Trust initiated a multi-faceted program targeting aging diverse PLHIV, aiming to optimize ART outcomes by mitigating the effects of these challenges.

Objectives included enhancing adherence support, integrating NCD management into HIV care, and improving the quality of life for participants.

Description: The program was implemented from 2021 to 2024 across Zimbabwe, focusing on urban and peri-urban areas with high HIV prevalence. The target population included individuals aged 50 and above on long-term ART.

Key activities included:

1. Integrated care clinics through offering combined HIV and NCD management, including screening, treatment, and counselling.
2. Pill burden reduction strategies by Promoting simplified ART regimens and synchronizing treatment schedules for HIV and NCDs.
3. Health literacy campaigns in educating participants on managing menopause, andropause, and NCD-related complications.

4. Peer support networks to creating safe spaces for aging PLHIV to share experiences and strategies for adherence and fatigue management.

Lessons learned: Findings revealed improved ART adherence and self-reported health outcomes among participants. Simplified regimens reduced pill fatigue, while integrated care minimized clinic visits, improving convenience. Peer networks effectively addressed stigma and emotional well-being, particularly for women experiencing menopause and individuals managing multiple NCDs. Challenges included inadequate specialized care for cancers and limited rural outreach.

Conclusions/Next steps: The program demonstrated that integrating NCD management with HIV care enhances adherence and quality of life for aging PLHIV. Scaling this model nationally, expanding cancer care, and bolstering rural outreach are critical next steps. Strengthened health literacy and advocacy are essential to sustain improvements and ensure equitable care for aging diverse PLHIV.

WEPED077

Factors impacting women's choice of PrEP product after the randomized blinded phase of PURPOSE 1

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Background: The PURPOSE 1 (NCT04994509) trial evaluated twice-yearly subcutaneous lenacapavir and daily oral emitricitabine/tenofovir alafenamide for HIV pre-exposure prophylaxis (PrEP) in adolescent girls and young women (AGYW). On demonstration of 100% HIV prevention efficacy of lenacapavir, participants were offered lenacapavir in an open label extension (OLE) phase, with >95% opting to join.

Methods: We conducted in-depth interviews (IDIs) at five South African sites in a qualitative sub-study of PURPOSE 1. IDIs followed study unblinding and OLE transition, offering an opportunity to explore participants' perspectives on the primary analysis results, unblinding, and OLE participation decisions. IDIs were in English and/or local languages among a subsample of young women (n=30), including randomly selected participants aged 18–25 years, purposively selected participants aged 16 and 17 years, and participants who discontinued study drug prematurely. Data were analyzed thematically using the Rigorous and Accelerated Data Reduction Technique.

Results: Most interviewed participants opted into the lenacapavir OLE, emphasizing preference for an efficacious, long-acting option compared with daily oral PrEP. Decisions were influenced by frequency of dosing and willingness to accept potential injection-site pain and nodules for extended duration of protection.

Participants described their decisions to continue injections as autonomous, although some noted input from key "influencers". Reactions to product arm unblinding included disappointment and regret about how well they had adhered to active or placebo oral PrEP. Some raised concerns about potential side effects upon transitioning to active lenacapavir.

Participants expressed optimism around continued use of lenacapavir, anticipating a reduced daily pill burden and increased confidence in HIV prevention. A minority opted for oral PrEP over lenacapavir, citing adherence familiarity or aversion to injection-site reactions. Participants framed their decisions as specific to their current context rather than definitive preferences for future prevention strategies.

Conclusions: Consistent with observations study-wide, most sub-study participants elected to use lenacapavir in the OLE, citing extended duration and optimal levels of protection as crucial to obviating the need for daily pill adherence.

These findings underscore the potential of twice-yearly subcutaneous lenacapavir to improve PrEP uptake and adherence in AGYW, and the importance of offering a choice of prevention options to meet varying needs and preferences.

WEPED078

Assessing HIV-related healthcare stigma and discrimination in Rwanda: findings from the Stigma Index Survey

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Background: HIV-related stigma and discrimination (SD) create significant barriers to accessing HIV prevention, care, and treatment services, impacting adherence among people living with HIV. To address these challenges, Rwanda conducted its second Stigma Index Survey in 2020, building on the first survey from 2009.

The aim was to assess the prevalence and nature of HIV-related SD, measure progress over the past decade, and inform advocacy efforts.

Methods: A cross-sectional study with mixed methods was conducted across 10 districts in Rwanda from October 2019 to June 2020. Quantitative data were collected from 938 people living with HIV enrolled in care at 38 health facilities using a structured questionnaire. Qualitative data were gathered through six focus group discussions and eight in-depth interviews.

The composite HIV Stigma Index was derived from five components: disclosure concerns, fear of transmission, judgment/blame, recent stigma experiences, and stigma's broader impacts. Descriptive statistics and thematic analysis were used.

Results: The HIV Stigma Index in Rwanda was categorized as very low (Index 15), indicating substantial progress since 2009. Of the 950 participants (99% participation rate), 72% were female, and the median age was 44 years.

Most respondents (87%) had completed primary education or less, and 51% reported challenges meeting basic needs. Stigma-related experiences showed an 80% reduction over the past decade, with declines in exclusion from social activities, family discrimination, and physical harassment. However, adolescents, women, and key populations (e.g., female sex workers, men who have sex with men) reported higher levels of stigma. Only 9.4% rated stigma related to human rights as very low.

Conclusions: Rwanda has made substantial progress in reducing HIV-related stigma and discrimination. Targeted interventions for vulnerable groups, along with efforts to raise awareness of the rights of people living with HIV, are needed to ensure equitable care and support.

WEPED079

The Intersection of HIV and Mental Health: a study of depression among adolescents and young adults in Rwanda

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Background: Depression represents a significant mental health challenge among adolescents and young people living with HIV (AYPLHIV). Global adolescent depression rates range from 1.4% (ages 10-14) to 3.5% (ages 15-19), with sub-Saharan Africa showing a markedly higher prevalence at 26.9%.

While research has established a clear connection between HIV status and mental health outcomes, there remains a critical gap in understanding the specific dynamics of depression among AYPLHIV in Rwanda. To address this knowledge gap, this study assesses the prevalence and factors of depression among AYPLHIV in Kigali and secondary cities of Rwanda.

This research aims to provide essential insights that can inform targeted interventions and support services for this vulnerable group.

Methods: A cross-sectional study was conducted between March and June 2024 from adolescents and young people living with HIV (10–24 years) in health facilities across Kigali, Musanze, Muhanga, Rubavu, Nyagatare). clinical and programmatic data were analyzed using descriptive, bivariate, and multivariate logistic regression.

Results: In a study of 457 adolescents and young adults living with HIV, depression was found to be prevalent, with 12% experiencing severe depression, 14% moderate depression, and 29% mild depression.

Multivariate analysis revealed that food insecurity (aOR: 6.68, 95% CI [3.42–13.05], p < 0.001) and recent caregiver changes (aOR: 1.97, 95% CI [1.07–3.62], p = 0.029) were independently associated with higher depression rates. The mode of HIV transmission was significantly associated with depression, with those who acquired HIV through mother-to-child transmission having lower odds of depression compared to those who acquired it through sexual violence (OR: 0.21, 95% CI [0.05-0.80], p = 0.023).

Additionally, individuals who had been admitted to the hospital in the last 12 months were more likely to suffer from depression (OR: 2.19, 95% CI [1.17-4.10], p = 0.014).

Conclusions: This study emphasizes the urgent need for integrated mental health services in HIV care programs, highlighting a high prevalence of depression influenced by multiple socio-economic and clinical factors among adolescents and young adults living with HIV in urban Rwanda. Enhanced care frameworks could significantly improve treatment outcomes and quality of life for this vulnerable population.

WEPED080

Treatment satisfaction was linked to improved adherence, and mental, physical, sexual and overall health among people living with HIV in the Positive Perspectives 3 study

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Background: Challenges to antiretroviral therapy (ART) adherence are well-documented. This study provides new insights into emotional, psychosocial, physical, and other treatment-related challenges.

Methods: This analysis utilized interim data from 834 participants in Positive Perspectives Study Wave 3 from adults on ART from Australia, Argentina, Chile, South Africa, Colombia, Italy, and USA. Treatment challenges assessed included emotional/ psychosocial (e.g. stigma, privacy concerns), physical issues (e.g. side-effects) and adherence barriers. Multivariable logistic regression examined the impact of treatment satisfaction on behaviours and self-rated health, adjusting for age, gender and income.

Results: Among 834 participants, 72.8% were <50 years, 49.3% female. 76.5% were on single-tablet regimens, 20.7% on multiple tablets, and 2.8% on injectables or other unspecified regimens.

While 67.2% were satisfied with their ART, half of all participants felt there was still room for improvement. Key treatment-related challenges included fear of missing doses (59.1%), side-effects (25.3%), and the emotional toll of a lifelong condition (18.3% struggling to adapt to lifelong treatment and 33.8% feeling worn out by its demands). Privacy concerns were also common: 71.4% were afraid that someone would discover their HIV status (e.g., friend, family member, co-worker). Additionally, stigma and isolation were common themes: 32.3% felt their medication was a reminder of their diagnosis, and 25.2% reported feeling lonely due to their HIV status.

Among 75% of participants who had ever switched ART regimen, reasons for switching included reducing side-effects (29.0%), addressing virological failure (18.0%), or reducing the number of pills (16.8%). Satisfaction with ART was closely linked to improved outcomes; satisfied individuals were less likely to skip doses (AOR=0.51, 95% CI:0.32–0.83), more likely to recommend their treatment (AOR=5.92, 95% CI:3.80–9.22), and to report optimal mental (AOR=2.74, 95% CI:1.76–4.25), physical (AOR=2.77, 95% CI:1.84–4.19) sexual (AOR=2.60, 95% CI:1.71–3.96) and overall (AOR=2.74, 95% CI:1.81–4.13) health.

Conclusions: A small majority of people expressed treatment dissatisfaction and emotional distress due to privacy and stigma related concerns.

These challenges must be acknowledged and addressed when offering people support services and new ART options.

WEPED081

Understanding depression among adolescents living with HIV in Tanzania: a mixed-methods study using the think-aloud approach

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Background: Adolescents living with HIV face a high risk of depression, which impacts their overall well-being, adherence to antiretroviral therapy, and ability to manage their health.

This study aimed to determine the prevalence of depression, explore adolescents' perceptions and experiences of depression in Tanzania, and understand their awareness of depressive symptoms and coping strategies.

Methods: This is a mixed-method study among participants of an ongoing two-arm randomized controlled trial (REMIND KID), which investigates the effect of customized digital tools in improving adherence among adolescents living with HIV aged from 15 to 19 years. Depression screening was conducted using the PHQ-9 tool, which categorizes depression as mild, moderate, moderately severe, or severe based on a score range of 5–20.

Additionally, 14 participants were randomly selected for think-aloud interviews to verbalize their thought processes while responding to the PHQ-9 tool. This was followed by in-depth interviews (IDIs) using a topic guide to explore emotional experiences in greater detail. Qualitative data were analyzed thematically.

Results: Among 182 adolescents, 95 (52.2%) were girls and 87 (47.8%) were boys, with a mean age of 17.1 years (SD 1.446). The prevalence of depression was 20.3% and 14 (0.07%) participants reported suicidal thoughts. Qualitative data from think-aloud interviews revealed how adolescents connected their experiences to depressive symptoms, providing context to the quantitative data.

Symptoms such as anxiety, stress, and sadness were linked to factors like stigma, and isolation. Participants mentioned different levels of understanding of emotional terms, often associating depression with "having many thoughts" or "feeling sorrowful". Perceived and actual stigma was identified as the main trigger for distress

and depression, especially after participants felt isolated or judged. Access to safe spaces and social adaptations helped reduce depressive symptoms.

Conclusions: Depression is prevalent among adolescents living with HIV, often influenced by contextual factors. Adolescents usually lack the exact words to describe depression but show their protective means through social support, positiveness, and faith. Understanding their narratives around depression helped with a deeper awareness of their mental health issues, which is essential for appropriate interventions. Promoting emotional expression among this population is crucial in improving mental health outcomes.

WEPED082

Perceptions regarding long-acting pre-exposure prevention (PrEP) among female sex workers and men having sex with men in San Pedro and Abidjan, Côte d'Ivoire

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Background: Demonstration studies showed that oral PrEP use and adherence can be complex among some populations, such as Female Sex Workers (FSWs) and men who have sex with men (MSM), especially due to their high mobility, unpredictable daily life or side effects. In this context, long-acting PrEP (currently at different stages of development), such as injectables, gel, implants, vaginal suppositories, vaginal/anal douching, or vaginal rings, may overcome some difficulties encountered with oral PrEP. This study aimed to explore the perceptions of these long-acting formulations among FSWs and MSM in Côte d'Ivoire.

Methods: Embedded within the ANRS 12381 PRINCESSE project, this qualitative sub-study was conducted in November-December 2023 within two community NGOs: Aprosam in San Pedro and Espace Confiance in Abidjan (FSWs and MSM). Overall, 32 FSWs (19 PrEP-naïve and 13 PrEP-experienced) and 12 MSM (3 PrEP-naïve and 9 PrEP-experienced) were interviewed (14 individual interviews, 5 focus groups).

A thematic analysis focused on practicality, discretion, autonomy/self-sufficiency, perceived efficacy, and anticipated side effects of the different formulations.

Results: Participants generally expressed favorable views toward long-acting PrEP, considered a less restrictive form than oral PrEP. Injections were particularly appreciated for discretion (no visible mark), with six-monthly injections preferred. Some concerns were expressed about injection pain. The gel, likened to a lubricant, was appealing for its dual protective and pleasurable function. However, some participants shared doubts about its effectiveness. Although the implant's long-acting time (1 year) was appreciated, they were not plebiscite due to a lack of discretion (scar) and anticipated potential side effects.

The autonomy and ease of use associated with vaginal suppositories were seen as advantageous, provided optimal hygiene conditions were met; the MSM drew a parallel with anal suppositories. Even though vaginal douching is widely practiced among FSWs, the intimate cleansing PrEP lotion received mixed reactions among them due to awareness of the risks of overuse. Lastly, the vaginal ring garnered little interest due to unfamiliarity with the product.

Conclusions: Overall, long-acting PrEP may offer alternative options for HIV prevention. Key elements include being easy to use, simplified follow-up (less often as possible), clear rules for start/stop, discretion, perceived effectiveness, and anticipated side effects.

Social, cultural, political, legal, environmental and structural determinants of health in different contexts

WEPED083

Effects of the Anti-Homosexuality Act on HIV service delivery in Uganda: evidence from community-led monitoring, 2022-2024

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Background: In 2023, Ugandan enacted the Anti-Homosexuality Act (AHA), which included intensified criminal penalties for consensual same-sex relations, raising concerns for access to health services. While arrests, harassment, and violence have been reported, evidence of the AHA's impact on HIV healthcare delivery is limited.

Community-led monitoring (CLM) is an accountability mechanism that uses community-gathered evidence to advocate for improved healthcare access and quality, and is used to describe changes in access and quality of care.

Methods: Quantitative and qualitative data from the CLM programme in Uganda were used to identify changes in healthcare delivery and use related to the AHA. As

part of the CLM programme, routine survey data were collected from clients and managers in 448 public health facilities and drop-in centres (DICs). Survey data were analysed using a quasi-experimental statistical model to measure HIV services before and after AHA (2022-2024). Seven semi-structured individual interviews with DIC facility managers were conducted, coded, and analysed.

Results: In public health facilities and DICs, respondents identified as MSM declined significantly after AHA (4.4% to 2.8% and 22% to 11%, respectively). In facilities, all KPs reported high levels of discrimination.

After the AHA, MSM reported reductions in HIV-related services compared to other populations, including PrEP counselling (88% to 81%) and participation in support groups (64% to 47%). In DICs, all KPs experienced disruption to services.

Among MSM specifically, health facility referrals decreased from 65% to 44%, PrEP access from 80% to 48%, and those reporting easy DIC access declined from 96% to 68%. DIC managers described experiencing harassment and violence from community members, and staffing challenges due to AHA, which they responded to by leveraging partnerships with local and global allies, providing virtual services, and seeking accreditation as full-service clinics.

Conclusions: Data from the Uganda CLM programme provide an early view of the impact of the AHA on service delivery. While DICs and health facilities developed strategies to build resiliency and adapt, the AHA created significant barriers to care.

These findings provide empirical warnings of the barriers experienced by key populations when accessing healthcare services in a criminalised context.

WEPED085

"They go without informing us": applying mechanism mapping to identify heterogeneous pathways from clinic switching to HIV care discontinuity in rural Uganda

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Background: Ubiquitous in African HIV treatment programs, clinic switching has been linked to poor viral load outcomes, especially among persons "silently" transferring or reinitiating care elsewhere without disclosing their antiretroviral therapy (ART) use histories. However, the mechanisms through which clinic switching precipitates HIV viremia are poorly understood.

Methods: In May-September 2022, we abstracted clinical records and conducted longitudinal in-depth interviews with 38 people exhibiting high-level HIV viremia (≥1000 RNA copies/ml), as well as interviews with 15 licensed clinicians and 6 focus group discussions with 47 lay peer health workers in public sector and non-governmental ART clinics across 3 south-central Ugandan districts (Kyotera, Masaka, Rakai).

Following iterative thematic analysis, we constructed mechanistic maps to visualize the sequence/timing of processes, or "causal chains," through which clinic switching destabilizes HIV care continuity.

Results: Nearly half of interviewed persons living with HIV (median age: 34 years, 66% male) reported 1-3 ART clinic transfers since HIV diagnosis (median: 5 years), motivated by a constellation of forces, namely unpredictable occupational mobility, suboptimal care quality, provider mistreatment, privacy/confidentiality concerns, transportation-related challenges, and COVID-19 lockdowns.

Despite the presence of standardized clinic transfer protocols, clinician and peer narratives illuminated institutional constraints and disincentives to issuing or processing clinic transfers, including insufficient time and human resources; provider reticence to transfer clients with care attrition histories; and onerous documentation requirements for transfer paperwork.

Three distinct pathways from clinic switching to HIV care discontinuity emerged (*Figure*), each distinguished by the transfer mechanism (i.e., silent versus provider-led) and clients' (non-)disclosure or of their treatment status to destination/receiving facilities.

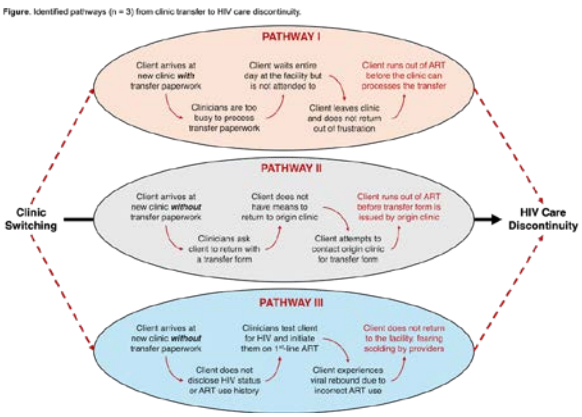


Figure. Identified pathways (n = 3) from clinic transfer to HIV care discontinuity.

Conclusions: We identified three discrete pathways from clinic switching to HIV treatment discontinuity, revealing heterogeneous drivers and mechanisms through which facility transfers (both provider-led and silent) resulted in delayed ART provision or care attrition altogether. Strategies to improve efficiencies in clinic transfer processes are urgently needed in Africa.

WEPED086

Examining the relationship between socioeconomic factors, opioid dispensing rates, and HIV prevalence in Appalachia

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Background: Substance use disorders (SUDs) have profound implications across various aspects of daily life, with a strong association between SUDs and HIV, and other STDs (CDC, 2016). Appalachia is disproportionately affected by the nation's drug addiction crisis, with the 2020 overdose death rate for people ages 25-54 in the region being 72% higher than the rest of the country (ARC, 2023).
The present study aims to evaluate the influence of socioeconomic and healthcare access factors on two variables: the Opioid Dispensing Rate and HIV Prevalence Rate, in Appalachia.
Methods: The dataset comprises 2961 observations across 423 counties in the Appalachian region from 2016 to 2022, with 12 variables recorded at the county level. The analysis is performed using Python and R tools and AI techniques to refine the code. Missing values in particular variables are handled accordingly. A Random Forest model is used to analyze the relationship with the identified variables and HIV Prevalence Rate, while an Ordinary Linear Regression model explores the relationship between the Opioid Dispensing Rate and said variables.
Results: The Random Forest Model, with HIV Prevalence Rate as a dependent variable, presents an R-Squared of 0.514, explaining 51.4% of the variation of the HIV Prevalence Rate. Feature importance coefficients are calculated to determine the relevance of numerous factors in predicting the target variable. PCP rate (primary care physicians per 100 persons), the percentage of uninsured population and income inequality are found to be the most pertinent predictors.
The Ordinary Linear Regression Model shows that a 1-percentage point increase in the Poverty Rate is associated with an increase of 1.41 opioid prescriptions dispensed per 100 persons, and a 1-unit increase in income inequality is associated with an increase of 5.71 opioid prescriptions per 100 persons.
Interestingly, a 1-percentage point increase in high school graduation rates is associated with a 0.63 reduction in opioid prescriptions per 100 persons.
Conclusions: Together, these models allow the identification of factors beyond the health sector that are central for addressing the opioid crisis and HIV prevalence. Policy development to tackle these issues must also focus on increasing access to education and reducing economic inequalities.

WEPED087

Utilizing a Hope Framework to gauge perceptions of quality health care amongst women living with HIV and their healthcare providers in Rwanda

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Background: Inadequate antenatal care significantly increases maternal and child health risks, with the World Health Organization (WHO) estimating that 75% of maternal deaths are preventable through timely, quality healthcare interventions. Hope has emerged as a critical factor in healthcare, with healthcare recipients (HCRs) who feel hopeful demonstrating greater engagement and adherence to care plans, leading to improved outcomes. Similarly, hope reduces burnout among healthcare providers (HCPs), enhancing their capacity to deliver high-quality care.
This study explores the role of hope among women living with HIV and their HCPs, analyzing its three dimensions: interconnectedness (supportive relationships), readiness for change (willingness to adopt new behaviors), and future orientation (belief in positive outcomes).
Methods: This qualitative study was conducted in three district hospital catchment areas in Rwanda's Northern Province. Using a phenomenological approach, 28 focus group discussions (FGDs) and 23 key informant interviews (KIIs) were conducted with 141 HCRs (pregnant women and mothers of children under five), 84 HCPs, and 23 policymakers, researchers, and health facility managers. Data collection tools were guided by the Herth Hope Index-Kinyarwanda (HHI-K) and informed by the Capability, Opportunity, and Motivation-Behavior (COM-B) framework and the Health Belief Model. Audio recordings were transcribed, translated, and coded using Dedoose software to identify themes and sub-themes, with a sub-analysis for HIV-positive women.
Results: Three themes emerged: (1) supportive relationships foster trust and quality care; (2) continuous learning and communication drive readiness for change; and (3) HCP passion and work conditions influence future orientation. Trust in HCPs, mutual respect, and addressing prior trauma were key to fostering hope among women living with HIV. *Quote: "the way she welcomes you increases your strength and says; though I am sick and am not feeling well, I will get better, just because of how she welcomed me".*
Conclusions: Hope, defined by interconnectedness, readiness for change, and future orientation, is essential for behavior change and healthcare engagement, particularly for women living with HIV. Strengthening hope-driven interventions can enhance primary health systems, improve maternal and child health outcomes, and address the stigma and trauma experienced by high-risk populations. Governments must prioritize initiatives that empower HCPs to deliver trust-building, hope-inspiring care.

Community-engaged/participatory social science-based interventions

WEPED088

Using photovoice as a community-based participatory research tool to inform intervention development for young people's improved access to comprehensive sexual education and health services in Southern Zambia (2024)

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Background: In Zambia, adolescent girls and young women face heightened vulnerability to HIV due to socio-cultural, economic, and behavioral factors. Early sexual initiation, inadequate access to comprehensive sexual education (CSE), and entrenched discrimination based on sex, compound accessibility to comprehensive sexual education and health services.
We employed community-based participatory research to identify factors affecting adolescents and young people's (AYP) access to CSE and HIV prevention services.
Methods: In October 2024 our community participatory approach began by training 12 AYP (aged 18-24) from target communities in Southern Province as community-based researchers (CBRs). The CBRs were trained in qualitative research methods, including photovoice.
The research team partnered with CBRs to develop a photovoice project using the prompt: "*Take a picture that represents the reasons that might make young people feel uncomfortable or prevent them from accessing comprehensive sexual education and health services (CSEH) in your community*".
CBRs then worked with the team to recruit thirty AYP participants (aged 16-24) from the community and local schools, including some with hearing impairments, to each take and describe 1-2 photographs responding to this prompt. In total, 45 photographs were collected with accompanying descriptions.
Photos and captions were printed and analyzed by three teams of CBRs and research team members, first independently, and then jointly, to finalize main themes through group discussion and consensus.
Results: Five major themes emerged as factors preventing AYP from accessing CSE and HIV services:
i. Socio-Cultural and Religious Influences, encompassing stigma, myths and misconceptions, religious beliefs, and use of traditional medicine;
ii. Post Violence care-Related Barriers, highlighting post violence and sexual differences affecting young women;
iii. Knowledge and Awareness Deficits, encompassing limited understanding and awareness among AYP about CSEH services;
iv. Structural Barriers, including long distances to facilities, transport issues, delays in service delivery, and communication difficulties, particularly for hearing-impaired individuals;
v. Behavioral and Lifestyle Factors, including alcohol and substance use.
Conclusions: The photovoice participatory approach provided valuable insights into the challenges faced by AYP, fostered meaningful group participation, and effectively engaged participants with hearing impairments.
Our study revealed key barriers that can inform decision-making and improve targeted interventions for AYP, including those with hearing impairments on CSEH.

WEPED092

Leveraging digital health platforms to enhance HIV-related service access among youth in Zimbabwe: insights from the Youth Boost project

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Background: Young people aged 10–24 face significant barriers to accessing HIV-related services, including stigma, lack of youth-friendly facilities, and limited health education. The Youth Boost project aimed to address these challenges by equipping community health workers with a digital job aid to deliver evidence-based HIV, sexual health, and mental health information, symptom screening and referrals to young people aged 10-24yrs in three provinces of Zimbabwe.
Our objective was to evaluate the effectiveness of the Boost platform in reaching and engaging young people, analyzing program reach, health screening outcomes and health-seeking behavior.
Methods: A mixed-methods approach was employed. Boost application screening data from April 2023 to December 2024, was analyzed to assess HIV, STI and mental health screening referrals. Endline surveys with 258 Community Health Workers captured knowledge, competencies, and health-seeking behavior changes. Focus group discussions (FGDs) explored feasibility and acceptability of application use and were analyzed thematically
Results: The Boost project reached 232,954 young people, the majority of whom were female (n=177,986; 76%) and 15-19 years (n=135,910; 58%). A total of 98,118 (42%) were referred for HIV testing, STI screening, or mental health services. Routine health facility data indicated a 30% increase in HIV testing uptake among young people during implementation of the program. FGDs with community health workers highlighted the importance of youth-friendly, confidential content in supporting youth engagement. In contrast, for 20-24-year-olds, gender sig-

nificantly influences HIV screening referrals (p = 0.014), and district remains a key factor in health-seeking behavior (p = 0.016).

Conclusions: The Boost digital job aid supported increased access to essential HIV testing, STI screening and mental health support among young people, particularly young women. These findings highlight the potential of integrated digital interventions in community-based programs to enhance health coverage. and have informed strategies for scaling Boost among community-based programming in Zimbabwe.

WEPED093

Using expressive ART therapy to empower indigenous and migrant communities affected by HIV: an analysis of PASAN's effect on women living with HIV

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Background: HIV-related stigma and discrimination disproportionately affect Indigenous and migrant women in Canadian reserves, creating barriers to healthcare, community integration, and self-expression. In response, PASAN (Prisoners' HIV/AIDS Support Action Network) introduced expressive art therapy sessions as a culturally responsive intervention to address these challenges. The program aims to empower women living with HIV by fostering emotional healing, enhancing self-esteem, and reducing stigma within their communities.

Through creative expression and community art projects, the initiative provides a safe space for participants to share their experiences, build resilience, and challenge stereotypes, promoting holistic well-being and social transformation in marginalized communities.

Description: The PASAN expressive art therapy program operates in Canadian reserves, targeting Indigenous and migrant women living with HIV who face significant stigma and discrimination. Over 12 months, the initiative integrates art-based workshops, community dialogues, and public art projects to promote emotional healing, reduce stigma, and foster social inclusion. Sessions are held in culturally responsive, safe spaces where participants engage in creating art, storytelling, and exhibitions to build resilience and challenge stereotypes.

A mixed-methods evaluation assesses the program's impact, including pre- and post-intervention surveys on stigma, self-esteem, and mental well-being, in-depth participant interviews capturing empowerment narratives, and community observations to identify shifts in attitudes toward HIV.

The program demonstrates a culturally grounded approach to transformative social change.

Lessons learned: The expressive art therapy program reduced stigma and enhanced self-esteem among Indigenous and migrant women living with HIV, fostering emotional well-being and community support. Through non-verbal expression and public art projects, participants gained confidence, built connections, and challenged stereotypes. Preliminary findings suggest increased self-confidence, reduced internalized stigma, and stronger social support networks, offering a culturally grounded, replicable framework to address systemic barriers and promote social transformation.

Conclusions/Next steps: The findings highlight the transformative potential of expressive art therapy in addressing stigma and fostering empowerment among marginalized women living with HIV. By improving emotional resilience, self-esteem, and community support, the program strengthens pathways to HIV prevention, treatment, and care.

Future initiatives should scale culturally responsive, art-based interventions to broader populations, emphasizing community engagement and integration into existing HIV support frameworks for sustainable impact.

WEPED094

Empowering health workers with AI: behavioral shifts and workflow impacts in HIV care

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Background: Integrating artificial intelligence (AI) into HIV programs could transform care delivery by improving diagnostic accuracy, supporting decision-making, and streamlining workflows.

We explore how AI tools shape differentiated service delivery models for HIV prevention and care, focusing on psychosocial and behavioral dynamics - specifically trust-building, workflow efficiency, and client-provider interactions.

Description: AI tools, such as large language models (LLMs) for conversational engagement, computer vision (CV) for diagnostic support, and predictive risk models were integrated into multiple AI-assisted programs to improve care delivery - a telehealth platform for HIV self-testing and PrEP/PEP delivery (MyDawa: Kenya), HIV testing and PrEP distribution (Maisha Meds: Kenya, Nigeria, Tanzania, Uganda), and a program for HIV education, virtual testing, and care linkage (Self-Care from Anywhere: South Africa).

In MyDawa and Maisha Meds, CV enhanced diagnostic accuracy by detecting subtle test indicators and providing real-time feedback, boosting health worker confidence. AI's accurate identification of true positive cases, including faint positives, strengthened trust in diagnostics and fostered collaboration between Health Care Workers (HCW) and AI systems. It also enabled clinical supervisors to efficiently audit clinician performance and target retraining, improving service delivery.

In incentive programs, AI streamlined claim processing through automation, allowing auditors to focus on claims requiring human oversight. LLM-powered tools deliver tailored guidance on HIV self-testing and care linkage, fostering user engagement and trust in healthcare systems. Predictive analytics empower health workers to make timely, data-driven decisions for appropriate care.

Lessons learned: AI enhances HCW confidence in decision-making and diagnostic accuracy. Preparing HWs to address client inquiries fosters trust and strengthens client-provider interactions. Efficiency optimizations allow QA auditors to prioritize nuanced investigations, supporting scalability without increasing personnel. Addressing psychosocial dynamics is crucial to position AI as a collaborative partner rather than a replacement.

Conclusions/Next steps: AI tools are poised to transform HIV care by augmenting human expertise and improving workflows. Future efforts should focus on optimizing AI platforms for speed and usability and seamless integration into workflows. Ongoing insights will inform strategies to scale AI-driven solutions while ensuring they enhance human-centered care.

WEPED095

Community advisory boards as pillars of community-engaged research: insights from the Africa Health Research Institute-South Africa

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Background: The Africa Health Research Institute (AHRI) prioritizes community-engaged research to address the health challenges faced by communities disproportionately affected by HIV. As a key mechanism to facilitate meaningful engagement, the Community Advisory Board (CAB) was established to ensure that research projects align with community needs and ethical standards.

This CAB initiative is guided by a constitution that outlines its structure, roles, and processes, emphasizing inclusivity, transparency, and representation. The CAB serves as a critical platform for fostering trust, disseminating knowledge, and empowering communities to actively participate in research.

Description: The AHRI CAB was constituted in accordance with a formalized process defined in its constitution, which emphasizes diverse representation from the community, including local leaders, health professionals, and civil society members. The constitution outlines the roles of CAB members, including providing input on research protocols, facilitating community engagement, and advocating for participant rights. CAB meetings are held monthly, supplemented by ad hoc consultations when urgent matters arise. Activities include capacity-building workshops, facilitated discussions on HIV prevention and care, and collaborative planning for community outreach events.

Lessons learned: The structured formation of the CAB, underpinned by a detailed constitution, has proven instrumental in fostering accountability and trust. Key lessons include the value of regular training for CAB members to navigate complex research topics and the importance of equitable representation in ensuring diverse community voices are heard. The CAB's involvement in planning outreach events has significantly improved community participation, with a high percentage of attendees reporting increased understanding of research and its impact.

Conclusions/Next steps: The AHRI CAB demonstrates the potential of structured community engagement to enhance the relevance and impact of HIV research. The constitutionally guided model provides a replicable framework for other institutions aiming to embed community voices in health research.

Future steps include expanding CAB membership to underserved areas, introducing digital platforms for broader participation, and conducting evaluations to measure the long-term impact of CAB-driven initiatives on research outcomes and community health.

WEPED096

Feasibility of integrating non-communicable disease management into HIV peer education at the community level in Rwanda

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Background: The extended life expectancy of people living with HIV (PLHIV), due to antiretroviral therapy(ART) has led to a rise of non-communicable diseases (NCDs) such as hypertension and diabetes. Addressing this dual health challenge necessitate integrated care approaches.

This study assessed the feasibility of incorporating NCDs management into the Rwanda's HIV peer educator (PE) model to enhance healthcare delivery of NCDs at community level.

Methods: A mixed-methods study, was conducted from October to November 2024, across purposively selected rural and urban health facilities in four provinces and Kigali city. The study included a questionnaire survey administered to 107 HIV peer educators (PEs) to assess their readiness to provide hypertension and diabetes management services.

Additionally, three focus group discussions (FGDs), each comprising 6–8 participants living with HIV and NCDs, and in-depth interviews with healthcare providers and program managers were conducted to explore barriers, facilitators, and opportunities for integrating NCD care into the HIV peer education model.

Results: The integration of NCDs care into Rwanda's HIV peer education model is feasible, with 89.7% of PEs expressing willingness to support PLHIV and 97.2% reporting high community acceptance. However, only 9.3% of PEs had received formal training on NCDs management, revealing significant knowledge gaps.

Gender and age differences were noted, with younger and female PEs reporting lower confidence levels. Lack of essential tools, such as blood pressure monitors and glu-

cometers were identified as critical needs. Despite these challenges, healthcare providers and program managers emphasized the potential benefits of integration with appropriate training, resource allocation and policy support.

Conclusions: Integrating NCDs care into the HIV peer education model in Rwanda is a feasible approach to improving health outcomes for PLHIV. The willingness of peer educators, coupled with high community acceptance, demonstrates the model's feasibility.

However, addressing gaps in training, resources, and service synchronization is essential for successful implementation. Targeted investments, policy-level support, and cross-sector collaboration are critical for scalability and sustainability.

WEPED097

The critical role of socio-economic support in addressing food insecurity among CLHIV households

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Background: USAID Kizazi Hodari (Brave Generation) is a child-focused and family-centred project implemented by the Evangelical Lutheran Church in Tanzania through USAID funding with the main goal of improving health, well-being and protection of Orphans and vulnerable children (OVC) and youth aged 0-17 years in HIV burden communities. During FY2024 (October 2023 to September 2024), the project in its central zone covering two regions (*Dodoma and Singida*) identified 133 CLHIV with persistent high viral load. Technical field review findings noted that, barriers and contributing factors to poor ART adherence were as follows: 72.9% household food insecurity, 20.2% poor parenting, 1.9% shortage of pediatric right drug regime, and 5% is other factors.

Description: Through the gaps identified causing persistent VL, the project developed comprehensive care plans for CLHIV and their families with need to address the underlying root causes. The project linked the CLHIV families with food insecurity to stakeholders providing food support, offered economic empowerment services, and developed household long-term plans for sustainability by linking them to Savings and Lending Groups for IGAs as well as other social support groups.

In addition, Faith community leaders were involved in mobilizing social and economic resources to support the families in need. OVC caregivers were capacitated with better parenting skills through trained project Community Case Workers (CCWs). Through collaboration with a clinical partner, proper quantification and ordering of the correct pediatric regimen were done to ensure adequate stock at catchment health facilities.

Lessons learned: 83 (62%) out of 133 CLHIV who are in age range of (0-17.5yrs) with persistent high viral load attained viral suppression by September 2024, ongoing collaborative efforts are in place to support the remaining CLHIV who are yet to attain Viral Load suppression. Key contributing factors to viral suppression was to address all social-economic barriers to proper ART adherence identified during household technical visits. The support was provided in a multi-disciplinary approach (*Community Case Workers, clinicians, ART Nurses, Social Workers, and OVC program coordinators*).

Conclusions/Next steps: The provision of ART services needs to be complemented with other supporting services to address social-economic barriers to attain Viral Load suppression

WEPED098

Engaging unreached men who have sex with men via Internet-based venues to participate in a mhealth-based HIV prevention trial in India: differences by online recruitment source and GIS analysis

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Background: Despite the widespread use of internet-based socializing and dating platforms among gay, bisexual, and other men who have sex with men (GBM), strategies to effectively engage and retain GBM in HIV prevention programs and research remain unclear.

This study evaluates multiple diverse Internet-based recruitment strategies for reaching and engaging MSM reached through diverse online venues in an mHealth-based randomized controlled trial and examines differences in participant characteristics associated with these virtual venues.

Methods: Participants were recruited from April 2022-August 2023 in Mumbai/Thane, India. Participants were sexually active MSM aged ≥18 years, and not recently been tested for HIV. Community designed and implemented recruitment strategies (eg online paid promotions, community-based online influencers, and WhatsApp groups) were utilised to reach/engage participants.

Participants were grouped by source of enrollment as (1) social media (e.g., Instagram, Facebook), (2) messaging apps (e.g., WhatsApp) (3) dating apps (e.g., Grindr, Blued) and (4) Snowball.

Analyses compared these groups on demographics, sexual behavior, and HIV testing practices, with $P < 0.05$ considered significant. Latitude-longitude data were plotted on GIS maps using QGIS to check for distribution of the participants and conduct location-based analysis.

Results: A total of 1004 participants enrolled, with the most frequent online recruitment sources being dating apps (42%), messaging apps (33%), and social media (18%). Participant characteristics significantly differed by online recruitment source including by income, preferred language, consistent condom use, and internet use for

seeking sexual health information, (P<.05). Participants enrolled from social media (54%) reported lower HIV risk perception than dating apps (46%) and messaging app (41%) (P<.05) and higher U=U awareness (38% for social media vs. 24% for dating apps). Those from messaging apps had higher difficulty in accessing free HIV testing compared to Snowball (63% vs 5.3%, P<.05). GIS analysis revealed GBM participants came from throughout Mumbai/Thane with no 'hot spots.'

Conclusions: While dating apps had the most enrollment, multiple platforms and strategies are needed to ensure equitable reach of diverse MSM. Different online platforms engaged diverse eligible MSM; such information could be leveraged for tailoring outreach and engagement strategies for service delivery and research.

Key populations and other vulnerable populations: Behavioural, social, cultural, structural and multilevel issues, contexts and interventions

WEPED099

Developing and testing digital solutions to improve HIV prevention among GBMSM engaging in chemsex: a feasibility study grounded in users' lived experiences

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Background: Chemsex, involving substances like methamphetamine, GHB/GBL, and mephedrone among gay, bisexual, and other men who have sex with men (GBMSM), poses HIV and health concerns. Despite existing integrated care programs, service uptake remains low, highlighting a missed opportunity for self-help harm-reduction digital strategies.

This study employs a collaborative design approach, integrating insights from the community on the app prototype and assessed usability to guide future interventions.

Methods: The app prototype was built on two theoretical foundations: recovery as a continuum with evolving goals like harm reduction and temporarily not using, and harm reduction dimensions on drug-, sex-, and HIV-related harms. Features were integrated into UPrEPU, a user-centered app supporting HIV PrEP adherence through flexible dosing and personalized reminders. Users could set goals, such as reducing chemsex frequency, supported by tailored feedback. The app includes an emergency alert system, local resources for clean needles and HIV testing, and myth-busting for the chemsex community. GBMSM with recent chemsex experience tested the app between January-December 2024. A one-month evaluation followed using the mHealth App Usability Questionnaire (1–7 scale, lower score indicates higher usability) and a 30-minute interview to assess usability and impact. Interview transcripts were analyzed based on design themes to gather users' reflections and suggestions for enhancing harm reduction features.

Results: Twenty GBMSM aged 23–46 in Taiwan reported a positive perception of usability (mean=2.16, SD=1.14). However, users indicated that HIV PrEP functions were utilized more frequently than drug-related functions.

Dynamic goal setting should be more intuitive and tied to lived experiences, reflecting one's physical and mental state. Inadequate social support led individuals to adopt self-reliance strategies, such as tracking HIV PrEP uptake, setting hydration reminders, and prioritizing self-care. This extended to managing cravings, adhering to dosage limits, and achieving control over their health.

Users emphasized the need for tools to go beyond drug-related features, focusing instead on helping them plan their time and set broader life goals, supporting a more holistic approach to well-being.

Conclusions: A collaborative, user-centered approach to app design shows promise for digital solutions addressing chemsex-related harms, including HIV prevention, with functions closely tied to lived experiences and holistic well-being.

WEPED101

Sexualized drug use among transgender women with HIV from Argentina: the mediating role of psychological distress in the relation with multiple stigmas and sexual violence

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Background: High prevalence of sexualized drug use (SDU, i.e., substance use before or during sex) among transgender women (TGW) may be fueled by the co-occurrence of multiple indicators, including diverse forms of stigma, violence and negative mental health outcomes. However, the mechanisms through which these factors interact remain less clear.

The present mediation analysis examined the role of psychological distress in the relation between transgender and HIV-related stigmas, sexual violence, and SDU in TGW with HIV from Buenos Aires, Argentina.

Methods: This study analyzed baseline data (collected between September/2019-December/2022) of 175 TGW with HIV, participating in TransCITAR, a prospective cohort study of 500 transgender and nonbinary individuals.

A generalized linear model (GLM) mediation was employed. SDU (dependent variable) was measured as use of one or more illicit substances (except cannabis) before or during sex in the last year. Independent variables were: transgender stigma (Transgender Stigma Brief scale's total score), HIV-related stigma (Berger's Scale total score) and sexual violence (at least one sexual violence episode in their lifetime from family members, sex work clients, police officers and/or partners). Psychological distress (Symptoms Check List 27 items' total score) was introduced as mediator.

Results: Participants' median age was 32 years old (IQR=27-38), 60.6% were sex workers, and 38.3%, migrants. Prevalence of SDU in the last year was 42.9%, being cocaine (66.7%) and ecstasy (8.1%) the most frequent substances. A substantial proportion (21.1%) reported at least one episode of lifetime sexual violence, primarily from sex work clients (29.5%) and police (29.5%).

The mediation model pathways were statistically significant: psychological distress mediated the relation between HIV-related stigma (β=0.144, CI=0.003/0.012, p<.001), transgender stigma (β=0.177, CI=0.009/0.032, p<.001), and sexual violence (β=0.358, CI=0.074/0.358, p=.003) with SDU. Higher levels of both stigmas and report of sexual violence were associated with higher psychological distress, which in turn was associated with increased SDU.

Conclusions: Results shed light on the syndemic relation of these indicators, especially highlighting the critical role of mental health. Stigma and violence continue to be the primary drivers of adverse mental and sexual health outcomes among TGW, and interventions from a trauma-informed, intersectional approach are required to mitigate their impact.

WEPED102

"I know they're going to weaponize this:" Black and Latino sexual minority men's mpox-related sexual behaviors, stigma concerns, and vaccination barriers and facilitators

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Background: The Mpox epidemic disproportionately impacted Black and Latino sexual minority men (BLSMM) in the United States, with them having the highest prevalence of disease and the lowest rates of vaccination. Despite this disparity, BLSMM perspectives on the disease, Mpox-related stigma, and inequitable rollout of and distrust in the Mpox vaccine are absent from the literature.

The present study aims to describe experiences with Mpox-related sexual behaviors, stigma, and vaccine barriers and facilitators among a sample of BLSMM living in both California and New York.

Methods: In this qualitative interpretive phenomenological study, we utilized semi-structured individual interviews as the primary source for data collection. Data was collected between August 2021 and December 2022 from 41 adult participants in California and New York. Interviews were recorded, transcribed verbatim, and analyzed using thematic content analysis.

Results: Participants ranged in age from 19-65 years, with the majority identifying as Black (73%) and male gender (93%). Overall, participants' narratives revealed that initial messaging around Mpox produced stigma parallel to the HIV/AIDS pandemic with many participants curtailing their sexual behaviors as a harm reduction strategy. Mpox-related stigma negatively impacted sexual minority communities both internally and externally.

Participants' narratives also revealed general vaccine skepticism due to existing medical distrust, negative vaccine experiences by other BLSMM, and lack of prioritization of outreach and distribution efforts in communities of color.

Conclusions: Alterations to vaccine administration protocols and outreach efforts for reasons identified in this study are critical to addressing disparities in vaccine uptake among BLSMM. Public health practitioners must consider equitable frameworks, existing stigmas, and medical distrust when engaging BLSMM.

WEPED104

Leaving no one behind: reaching disabled people living with HIV in Umzingwane District, Matabeleland South

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Background: Globally, approximately 15% of the population lives with disabilities, with Zimbabwe reporting a prevalence of 9.3%, or about 1.9 million people. Among them, people living with both HIV and disabilities face unique challenges due to stigma, discrimination, and systemic exclusion. Women and girls with disabilities are particularly vulnerable to acquiring infection and other forms of violence. The Sustainable Development Goals emphasize inclusivity and ensuring that no one is left behind, particularly regarding access to health services. In Umzingwane District, Matabeleland South Province, 11% of the population (8,330) are people living with HIV, including 165 individuals (2%) who also have disabilities. These clients have been categorized as bedridden (13), wheelchair bound (10), other physical disabilities (17), sen-

sory disabilities (55) and mental illness (70). Addressing the needs of this marginalized group requires innovative, tailored approaches.

Description: A collaborative effort involving the Ministry of Health and Child Care Rehabilitation Department and ZNNP+ identified people living with HIV and disabilities within healthcare facilities. A needs assessment was conducted for 165 clients, revealing gaps in service coverage. Tailored interventions included door-to-door visits for 40 clients unable to access clinical services, utilizing a "supermarket approach" to deliver comprehensive care. Services provided included viral load testing, ART refills, family planning, and pediatric HIV prevention.

Lessons learned: The initiative yielded significant outcomes, including viral load sampling for 27 of 30 eligible clients. Additionally, enhanced adherence counseling sessions were conducted for 2 of 3 clients. Four children who were due to PMTC FO follow up had EID samples collected for testing. Two pediatric contacts were tested for HIV, and both tested negative. A total of 27 clients received ART refills, and six women were initiated on family planning-control pills.

Conclusions/Next steps: This project highlights the importance of disability-inclusive HIV interventions. Tailored, person-centered approaches can successfully address the unique needs of people living with both HIV and disabilities. The inclusion of rehabilitation services within HIV care, particularly for women and girls, is critical to overcoming systemic barriers and ensuring equitable access to healthcare. Future initiatives must prioritize inclusive strategies to uphold the principle of leaving no one behind in the continuum of care.

WEPED105

"People who are still injecting drugs are the ones who need injectable PrEP the most:" Preferences for injectable PrEP among people who inject drugs in Kampala, Uganda

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Background: Access to oral PrEP and adherence among people who inject drugs (PWID) have remained low. Injectable PrEP products may be more acceptable and feasible, and potentially improve uptake and persistence. Understanding PWID perspectives on injectable PrEP could inform strategies for larger scale implementation.

Methods: We conducted semi-structured interviews with 20 PWID in Kampala, Uganda enrolled in a clinical trial evaluating integrated delivery of PrEP and harm reduction services. All participants were experienced with oral PrEP and purposively sampled to capture variation in adherence. Local social scientists conducted interviews that were audio recorded, translated, and transcribed. We employed thematic analysis to characterize oral and injectable PrEP preferences and key influences on PrEP acceptability.

Results: Participants were highly enthusiastic about injectable PrEP; all but one preferred injectable to daily oral PrEP. Many participants expressed significant fears of HIV acquisition, believed PrEP was an important HIV prevention strategy, but described challenges remembering to consistently adhere to daily medication (Table).

Participants viewed injectable PrEP as different from injecting drugs, and were not concerned that injectable PrEP would influence drug injecting behaviors. Participants believed injectable PrEP overcomes barriers to pill-taking by minimizing stigma from traveling with pills or disclosing use to sexual partners.

Despite high acceptance and enthusiasm, many reported fears of needles, pain at injection site, and product scarcity and cost as concerns. Several wanted the option to switch between oral and injectable regimens depending on life circumstances.

Participants preferred injectable PrEP delivery in health facilities located close to their residence, and injections by healthcare providers because of existing trusting relationships. Participants were concerned about long intervals between injectable PrEP visits and suggested reminder calls to ensure adherence.

Influential Factors	Example Quotation
Memory negatively influences adherence to oral PrEP	"An injection is better because I will know that it is expiring after two months. But when you are taking the oral pills, you could forget to take it sometimes so it makes it ineffective in the body, so the [Cabotegravir] PrEP is far better."
PWID have significant fears of acquiring HIV	"You mentioned that the pain after getting injected is not that much so why would I choose to have a lifetime of pain (HIV) when I can endure this momentarily pain but be safe all through."
PrEP pills are confused as ART for HIV treatment and introduce stigma	"Those oral pills can give you away that you are taking pills; when I move with the pills and someone sees me taking the pills they might think (I have HIV) yet when I get the injection no one will know."
PrEP injections will not influence drug use by injection	"[T]his injectable PrEP is only administered once in 2 months so it will not remind [people who used to inject drugs] of anything. PrEP is even being injected on the buttocks and not any other part that they used to inject so there won't be any problem."
Counseling messages will play a key role in acceptability	"I think it will depend on the counseling message, before someone understands the goodness of injectable PrEP and also becomes aware of the after-effects which are not so serious."
Easy access to injectable PrEP delivery will improve uptake	"The easiest way is to get the services at the nearest center from where I reside."

Table: Key Influences on Acceptability.

Conclusions: Injectable PrEP products may be an effective strategy to improve HIV prevention access for PWID. Implementation programs scaling up injectable PrEP among PWID should focus on addressing needle and site reaction fears and ensuring delivery by trusted providers.

Key populations and other vulnerable populations: Behavioural, social, cultural, structural and multilevel issues, contexts and interventions

WEPED103

Enhancing supportive environments for key populations: advocacy strategies to mitigate stigma, discrimination, and violence among key affected groups through engagement with Sri Lanka law enforcement

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Background: In Sri Lanka, the estimated adult HIV prevalence is less than 0.1%, with the highest rates among men who have sex with men (1.5%) and transgender women (1.4%). Key populations often face stigma, discrimination, and violence, increasing their HIV vulnerability and exposing them to wrongful arrests, harassment, and human rights violations. Misleading laws, such as the Vagrancy Ordinance and Penal Code Sections 365 and 365A, criminalize transgender sex workers and MSM.

The National HIV & STI Strategic Plan prioritizes creating supportive environments to reduce stigma, discrimination, and violence against key populations through advocacy with Sri Lanka Police.

Description: The NSACP conducted advocacy programs over the past decade targeting police officers across Sri Lanka to reduce stigma and promote inclusive policing practices. These programs focused on legal awareness and respect for human rights, particularly concerning men who have sex with men and transgender sex workers.

Consequently, two circulars were issued by Sri Lanka Police, providing guidelines on handling transgender individuals and prohibiting condom-related arrests, emphasizing that condoms cannot be used in court to prove sex work.

This framework institutionalized non-discriminatory practices and upheld the dignity of key populations. Additionally, a high-ranking police officer was designated to address key population matters, and Sri Lanka Police supports ongoing discussions to repeal these punitive laws.

Lessons learned:

1. **Advocacy drives positive changes:** Continuous education for law enforcement officers on gender identity, human rights, and public health significantly improved their understanding and attitudes toward KAPs.
2. **Policy endorsement reinforces Action:** The assurance of official circulars legitimized advocacy efforts.
3. **Collaboration yields Impact:** The partnership between the NSACP and Sri Lanka police facilitated trust-building and fostered a shared commitment to reducing stigma and discrimination.
4. **Challenges in Implementation:** Resistance to change and deep-rooted prejudices among some officers highlighted the need for sustained engagement and periodic evaluations to monitor progress.

Conclusions/Next steps: Advocacy programs demonstrated their potential to transform attitudes and practices within law enforcement, creating a supportive environment for KAPs. it is essential to:

- Institutionalize regular training for new recruits and existing officers.
- Strengthen monitoring mechanisms to ensure adherence to circulars and guidelines in collaboration with community stakeholders

Mental health and well-being interventions, programmes and models

WEPED106

Sexual satisfaction in HIV-serodiscordant men-who-have-sex-with-men couples: a dyadic approach

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Background: Although U=U is a widely accepted concept, the anxiety and stigma associated with HIV still impact the sexual satisfaction of HIV serodiscordant couples. There is limited research on how sexual satisfaction affects the quality of relationships in this group.

This study examined the individual and cross-partner associations of sexual satisfaction on relationship satisfaction among HIV serodiscordant couples using a dyadic approach. We explored whether sexual satisfaction differed between people living with HIV and their HIV-negative partners.

Methods: This cross-sectional study included 50 HIV-serodiscordant men-who-have-sex-with-men couples recruited between May 2019 and December 2020 at outpatient clinics. Participants completed the New Sexual Satisfaction Scales, a self-report tool assessing sexual satisfaction across three dimensions: ego-focused, sexual activity-centered, and partner-focused. The association between sexual satisfaction and relationship satisfaction was analyzed using two-step hierarchical regression.

In the first step, the participant's own sexual satisfaction score predicted relationship satisfaction. In the second step, both the participant's and their partner's sexual satisfaction scores were included.

Results: Participants were aged 20 to 56 years. All participants living with HIV had an undetectable viral load. Among HIV-negative participants, 46% were using PrEP.

No significant differences in sexual satisfaction were observed between people living with HIV and their partners. For both groups, partner-centered sexual satisfaction was the only factor significantly associated with relationship satisfaction (β = 2.012 in the first step and β = 1.932 in the second step for people living with HIV; β = 2.154 in the first step and β = 2.096 in the second step for HIV-negative partners).

	Relationship satisfaction			
	People living with HIV (n = 50)		HIV-negative (n = 50)	
	β	t	β	t
Step 1				
[Self] Ego-focused	-0.103	-0.111	-0.327	-0.368
[Self] Sexual activity-centered	-0.802	-1.154	-0.269	-0.281
[Self] Partner-centered	2.012	3.214**	2.154	2.496*
R^2		0.215		0.160
Step 2				
[Self] Ego-focused	-0.012	-0.012	0.567	0.534
[Self] Sexual activity-centered	-0.823	-1.024	-0.956	-0.932
[Self] Partner-centered	1.932	2.583*	2.096	2.381*
[Partner] Ego-focused	0.066	0.071	-1.029	-0.888
[Partner] Sexual activity-centered	0.171	0.192	1.706	1.847
[Partner] Partner-centered	-0.070	-0.092	-0.549	-0.639
R^2		0.216		0.222
ΔR^2		0.002		0.063
F value		0.032		1.156

*p < .05; **p < .01. [Self]: Participant's own score. [Partner]: Partner's score.

Table. Individual and cross-partner associations of sexual satisfaction on relationship satisfaction using two-step hierarchical linear regression.

Conclusions: Regardless of one's HIV status, partner-centered sexual satisfaction—how one perceives their partner's sexual satisfaction—is the most important factor determining relationship satisfaction. This finding highlights the importance of fostering open communication and mutual understanding about sexual needs and satisfaction to strengthen relationship quality, regardless of HIV status.

WEPED107

High burden of mental health disorders among adolescents and young people living with HIV (AYPLHIV) in Nigeria: a cross-sectional study

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Background: Nigeria faces a significant mental health (MH) burden, with adolescents and young people living with HIV (AYPLHIV) experiencing disproportionately higher rates than their peers without HIV (34.9% vs. 23.1%). Poor MH complicates access and adherence to HIV care, worsening outcomes. With 50% of mental illness beginning by age 14 and 75% by 24, the 171.5k AYPLHIV in Nigeria, including key populations (KPs) in that age group, are particularly vulnerable. In 2024, Nigeria, with CHAI's support, became one of the first countries to adapt and implement the WHO Mental Health Gap Action Programme-3.0 (mhGAP) to address MH service gaps with non-specialists. However, limited data on MH burden hinders resource allocation and scale-up. This cross-sectional study estimates point-prevalence of common MH disorders among AYPLHIV in Nigeria.
Description: MH screenings for adolescents aged 12-24 were integrated into routine services at ART clinics and One-Stop-Shops (OSS) for KPs across 22 facilities in six high-burden HIV states, representing each of Nigeria's geopolitical zones. Screenings using the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder (GAD-7) for depression and anxiety, were conducted by 93 trained HIV cadres. Data was recorded in CommCare. Positive screening scores were used as proxies for point-prevalence and severity classification among AYLPHIV and sub-populations, allowing comparison.
Lessons learned: From June to December 2024, 1,423 AYPLHIV were screened after MH talks. This initial data shows 38% screened positive for depression, 19% for anxiety, and 16% for both. Cases were mostly mild: 30% mild 5% moderate, 2% moderately severe, and 1% severe for depression, and 14% mild, 4% moderate, and 1% severe for anxiety. Anxiety was significantly higher in females (23%) than males (17%) [z=2.847, p=0.0044]; depression showed no gender differences. Depression prevalence increased with age: 12-14 (24%), 15-19 (27%) and 20-24 (46%). KPs had higher depression [z=9.014, p=<0.0002] and anxiety [z=3.240, p=0.0012] rates compared to others.
Conclusions/Next steps: These findings confirm the high burden of depression and anxiety among AYPLHIV in Nigeria, with a higher prevalence of anxiety in females, and depression in older AYPLHIV, and KPs, providing insight into the need for MH and HIV services integration for AYPLHIV in Nigeria.

WEPED108

Integrating and optimizing Mental Health and Psychosocial Support Services (MHPSS) in key populations HIV program through cART outreaches: lessons from Ondo State under the αCARES Project

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Background: Key Populations (KPs) are disproportionately affected by the dual burden of HIV and mental health (MH) challenges, worsened by stigma, discrimination, and systemic barriers to care. Integrating Mental Health and Psychosocial Support Services (MHPSS) into HIV programs is crucial for improving comprehensive care.
This study evaluates the effectiveness of cART outreaches in delivering MHPSS to KPs compared to alternative integration models, using data from Ondo State under the αCARES Project.

Description: The study utilized data from cART outreaches conducted between July and September 2024, involving Female Sex Workers (FSW), Men who have Sex with Men (MSM), Transgender persons (TG), and People Who Inject Drugs (PWID). Comparative analysis was performed against facility-based and peer-led approaches over the same period. Key metrics included the number of KPs screened, eligibility for MHPSS, diagnoses (depression, anxiety, substance use), referrals, and follow-up return rates.

Lessons learned: cART outreaches screened 1,007 KPs, with 875 eligible for MHPSS, compared to 433 screened and 355 eligible in facility-based and peer-led approaches. First-line psychosocial support was provided to 742 KPs through cART outreaches, significantly higher than the 577 supported through other methods. Referrals for further assessment were also higher in cART outreaches (216 vs. 186). Diagnoses of depression (89 vs. 82), anxiety (128 vs. 77), and substance use (86 vs. 142) varied, with cART outreaches showing higher rates for depression and anxiety but lower for substance use. Follow-up return rates were notably higher in cART outreaches (60% vs. 34%).

Conclusions/Next steps: The αCARES Project highlights the feasibility and effectiveness of integrating MHPSS into HIV programs for KPs. cART outreaches demonstrated superior effectiveness in screening, providing MHPSS, and ensuring follow-up among KPs compared to facility-based and peer-led approaches. The higher engagement and return rates suggest that it offer a more accessible and stigma-free environment for KPs.

These findings support scaling up cART outreaches as a viable model for integrating MHPSS into HIV programs, addressing critical MH needs, and improving overall health outcomes for KPs.

WEPED109

Enhancing mental health support systems through empowering peer providers with improved screening techniques

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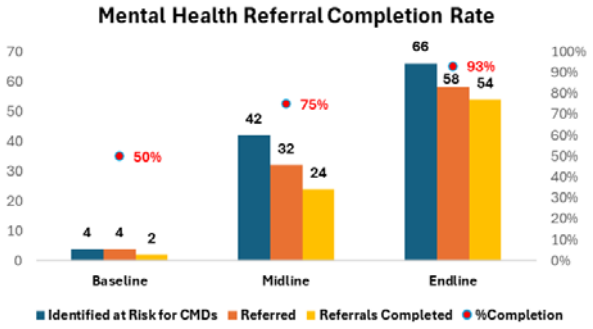
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Background: Young Peer Providers, with lived experiences of HIV treatment and mental health issues, are uniquely equipped to provide empathetic and relatable support. Their roles include facilitating peer counselling sessions, mental health screening and literacy, and encouraging help-seeking behaviours. These efforts reduce stigma and create safe spaces for mental health discussions. Collaboration between Peer Providers and mental health nurses is often weak, resulting in incomplete referrals leading to worsened mental health outcomes.

Description: In September 2024 a a two-day training for 19 Peer Providers (Community Adolescent Treatment Supporters), 10 Health Care Providers from four Health Facilities in two districts, 2 specifically being mental health nurses, focused on effective mental health screening tool administration, interpretation, and reinforced referral pathways. Training clarified roles and referral processes. Weekly data updates and referral tracking meetings done after the training identified emerging challenges and reduced barriers in completing referrals in real time.

Lessons learned: Screening rate by Peer Providers improved from 10% 105 (63F:42M)/1,011 at baseline in August 2024 to 73% 801/1,093 (502F:299M) by December 2024, with intensive support. Identification of those at risk of common mental health conditions (CMC) increased from 4% to 8%.

Completion rate of referrals by mental health nurses rose from 50% to 93%, demonstrating success of enhanced collaboration. Effective collaboration between peer providers and healthcare workers is essential for smooth referral processes. Prioritizing mental health is integral part for compassionate healthcare systems and aids in improved outcomes.



Conclusions/Next steps: Peer providers work effectively when they are embedded in a supportive health system, training in mental health screening boosts identification of CMCs and referrals rate, improving HIV and mental health outcomes.

Continuous monitoring and capacity building enhance service quality. Collaboration between peer providers and mental health nurses fosters sustainable support systems tailored to young people's needs.

WEPED110

Prevalence and correlates of depression and anxiety among adolescents and young adults living with HIV in Western Kenya: social support, violence, drug use, and stigma as key determinants

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Background: Adolescents and young adults living with HIV (AYLHIV) are at increased risk for common mental disorders (CMDs). There are few longitudinal studies comparing risk factors of CMDs among AYLHIV.

Methods: This analysis used data from the *Data-Informed Stepped Care* study (DiSC; NCT05007717), a cluster randomized trial in 24 facilities across three counties in Western Kenya. Depression (Patient Health Questionnaire [PHQ-9]) and anxiety (Generalized Anxiety Disorder-7 [GAD-7]) were measured every 6 months for 1 year. Correlates of CMDs were assessed using generalized linear mixed effects Poisson models, clustered by facility.

Results: Of 1,904 AYLHIV, baseline prevalence of mild depression (PHQ ≥5) was 8.3% (age subsets: 2.2% 10-14 yrs, 8.4% 15-19 yrs, 15.0% in 20-24 yrs) and mild anxiety (GAD-7 ≥5) was 3.7% (0.4% 10-14 yrs, 3.5% 15-19 yrs, 8.0% 20-24 yrs); prevalence of CMDs decreased significantly during 12-month follow-up (depression PR=0.48 95%CI: 0.36-0.64; anxiety PR=0.37, 95%CI: 0.24-0.59) and in age-subsets of 15-19 and 20-24 year olds (Figure 1).

In longitudinal models, among 15-19 year olds, low social support (PR=2.68, 95%CI: 1.41-5.11), violence (PR=4.66, 95%CI: 3.18-6.84), substance use (PR=3.17, 95%CI: 1.98-5.08), stigma (PR=2.61, 95%CI: 1.82-3.75), and having a sexual partner (PR=3.42, 95%CI: 2.41-4.86) were associated with increased risk of depression; being enrolled in school (PR=0.26, 95%CI: 0.18-0.37) and vertical HIV acquisition (PR=0.43, 95%CI: 0.28-0.64) were associated with lower risk.

Only social support influenced depression risk in 10-14 year olds, while stigma, violence, and substance use were associated with depression in 20-24 year olds. Correlates of anxiety were similar to depression with differences between age categories (Figure 1).

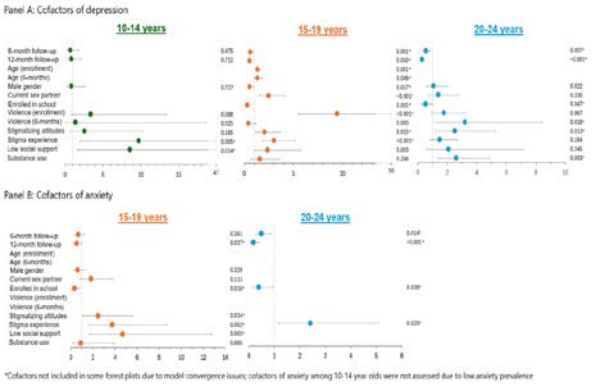


*Figure 1. Cofactors of depression and anxiety stratified by age**

Conclusions: In this cohort of AYLHIV, prevalence and correlates of CMDs differed in age-strata. Lack of social support, violence, stigma, and substance use were associated with depression and anxiety, particularly among older AYLHIV. Mental health strategies in AYLHIV programs may benefit from age-tailored approaches.

Gender, sexuality and sexual cultures: Meanings, identities, norms and interventions

WEPED111

Sexual behaviors and STI risk in transgender men and non-binary identities from the TransCITAR cohort in Argentina

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Background: HIV and STI risk, and preventive behaviors among transgender masculinities and nonbinary people (TGMNB) have been understudied. This study explored these variables among TGMNB participating in TransCITAR, a prospective cohort study that follows the physical and psychosocial health of 500 transgender and nonbinary people in Buenos Aires, Argentina.

Methods: Between September 2019-September 2022, 61 TGMNB completed baseline psychosocial questionnaires, collecting information on socio-demographic variables, gender identity, sexual behaviors, substance use, and HIV and STIs testing. Descriptive statistics were used to summarize data.

Results: Median age was 26 years (IQR: 21-30), 50.8% had incomplete university or higher, 47.5% were unemployed, 27.9% had private or employer-provided health insurance. Participants identified as: trans men (39.3%), men (24.6%), nonbinary (19.6%), and transmasculine (14.8%).

Diverse sexual orientations were reported: heterosexual (39.3%), pansexual (18%), bisexual (16.4%), homosexual (9.8%), and asexual (3.3%). In the last month, 35.3% reported sex with cisgender women, 9.8% with cisgender men, 9.8% with transgender men, 9.8% with transgender women, and 5.9% with nonbinary people.

Almost half (42.6%) reported not using any HIV or STI preventive method in the last sexual relationship. Among those who did use, 31.1% used condoms, and 13.1%, dental dam. Only 25% would be willing to use PrEP.

Also, 7.8% reported ever engaging in transactional sex, and 21.3% reported use of alcohol or illicit substances before or during sex in the last month. While 67.2% TGMNB had an HIV test in the last year; 18% had never tested. The main reasons were: not considering themselves at risk (54.5%) and lack of opportunity/never been offered (18.2%).

Conclusions: TGMNB showed low engagement in safer sexual behavior, limited willingness to use PrEP and low perception of HIV/STI risk. These perceptions combined

with the high variability of sexual orientations and behaviors, and healthcare providers' failure to offer testing and preventive options, contribute to gaps in HIV prevention implementation. Further research is needed to design culturally sensitive HIV and STI prevention interventions for TGMNB.

WEPED112

Breaking the silence: exploring the lived experiences of intersex individuals in Tanzania's sociocultural context

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Background: This programme aimed to explore and address the challenges faced by intersex individuals in Tanzania, focusing on medical interventions, societal stigma, and access to safe spaces.

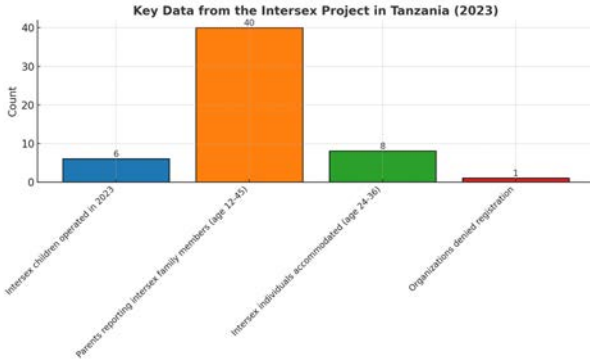
The objectives were to document the prevalence of non-consensual surgeries, understand the needs of intersex individuals, and provide support through safe accommodation and advocacy. The scope included improving awareness and promoting policy changes to protect intersex rights.

Description: In 2023, a project in Tanzania, supported by the Tanzania Safety and Security Taskforce for LGBTIQ (TSST), focused on addressing challenges faced by intersex individuals and their families. Key interventions included community outreach, safe housing, and legal advocacy.

During this period, more than six intersex children underwent non-consensual surgeries in health facilities, exposing the urgent need for healthcare reforms. Over 40 parents reported having intersex family members aged 12 to 45, highlighting the issue's wide-reaching impact. The TSST safe house provided temporary shelter and psychosocial support to eight intersex individuals aged 24 to 36. Additionally, an organization advocating for intersex rights faced registration denial and had to register under the disability category.

Lessons learned: The programme exposed gaps in healthcare, with non-consensual surgeries causing lasting harm. Lack of legal recognition perpetuated stigma and hindered advocacy. The safe house provided essential refuge but faced resource limitations, underscoring the need for sustainable solutions.

Community engagement revealed the importance of educating families to challenge harmful norms and support intersex individuals, highlighting the urgency for systemic reforms and increased resources.



Conclusions/Next steps: Healthcare reforms are urgently needed to end non-consensual surgeries and ensure ethical practices. Advocacy should prioritize policy changes to protect intersex individuals' rights.

Expanding safe housing and providing psychosocial and economic support are vital for reducing stigma and improving HIV care. Collaboration among healthcare providers, policymakers, and communities is essential.

Implementation research to scale up HIV testing

WEPEE113

Exploring barriers and facilitators of pediatric HIV services delivered via UNICEF's service delivery framework in Mozambique, Nigeria and Uganda

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Background: Globally, of the estimated 1.4 million children living with HIV (CLHIV), 86% are resident in African countries. To tackle HIV service delivery gaps among CLHIV, the Pediatric Breakthrough Partnership (PBP) of local agencies and Non-Governmental Organizations implemented the Service Delivery Framework (SDF) in Mozambique, Nigeria and Uganda. The SDF was developed with the leadership of UNICEF to improve pediatric HIV Service delivery.

We present summative qualitative findings from the SDF evaluation to inform scalability of its strategies in similar contexts.

Methods: The SDF strategies focus on Locating, Linking, Treating and Retaining CLHIV. The evaluation was performed from January 2021-December 2023 in Uganda (Mubende and Isingiro Districts), Mozambique (Masinga and Morrumbene Districts) and Nigeria (Taraba and Rivers states).

Qualitative interview guides were designed with the Consolidated Framework for Implementation Research (CFIR), focusing on determinants of pediatric HIV service delivery in the Outer Setting (e.g. patient needs/resources, organizational operations) and Implementation Process domains. Nineteen focus group discussions, 56 in-depth interviews and 41 key informant interviews were conducted among PBP representatives, national, sub-national stakeholders, health-facility and community representatives, users of pediatric HIV services who consisted of adolescents, parents and caretakers. Transcripts were analyzed using NVivo v14.

Results: One hundred ninety-one participants, 102(53%) female, 89(47%) male, were interviewed. Barriers to pediatric HIV service utilization and adherence included: Few community-level health professionals; long distance to, and lengthy waiting time at health facilities, food insecurity, low income of caregivers affecting transport affordability, poor HIV awareness and knowledge among caretakers.

Facilitators included one-stop stations that reduced facility waiting time; community mobile brigades for easier access to HIV testing and treatment, promoting Community Savings and Loans Associations, PBP technical assistance to local government, PBP incorporating annual work plans at health facilities for timely service delivery, joint planning and collaborative approaches to avoid duplication of services and wastage of resources.

Conclusions: Our three-country SDF evaluation identified individual, community, and system-wide Outer Setting and Implementation Process barriers to pediatric HIV service delivery.

We identified that SDF could facilitate learning collaborative approaches, one-stop shops, community outreaches and income-boosting innovations essential for scaling up pediatric HIV services in similar settings.

WEPEE114

Effectiveness and cost of community-based dried blood spot sample collection for early infant diagnosis in Angola

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Background: In Angola, 14% of infants perinatally exposed to HIV (IEH) received an Early Infant Diagnosis (EID) by 2 months of age in 2023. Community-based Dried Blood Spot (DBS) collection was piloted to improve time to first EID test in hard-to-reach communities in selected PEPFAR-supported health facilities (HF).

Methods: In collaboration with the National AIDS Institute, the Reaching Impact Saturation and Epidemic Control Program funded by United States Agency for International Development implemented the pilot at two HF with the lowest EID coverage at two months in Huambo province.

Pregnant and lactating women living with HIV receiving prevention of vertical transmission services were given the option to have the first EID sample collected at home by trained community counselors or bring the infant back to the HF. Two HF with similar EID coverage were used as control HF.

We used survival analysis to determine coverage and average times to first EID sample collection pre-intervention (January-March 2024) and post-intervention (April-July 2024). Unit cost/DBS collected were calculated, tallying training, supervision by program and laboratory staff, supplies and transportation costs.

Results: Pre-intervention, EID coverage at 2 months and average time for first EID sample collection were similar in the intervention [(21/30;70%) and 62 days] and control HF [(18/26; 69%) and 50 days] (p=0.9360; p=0.4927). Post-intervention, coverage at 2 months at the intervention HF increased to 94% (34/36) and remained unchanged at control HF at 72% (21/29) (p=0.0146); time to first EID sample decreased at intervention HF (35 days) and remained unchanged (50 days) at control HF (p=0.0004). Intervention start-up costs were estimated at $201/DBS collected while routine costs were $19/DBS collected.

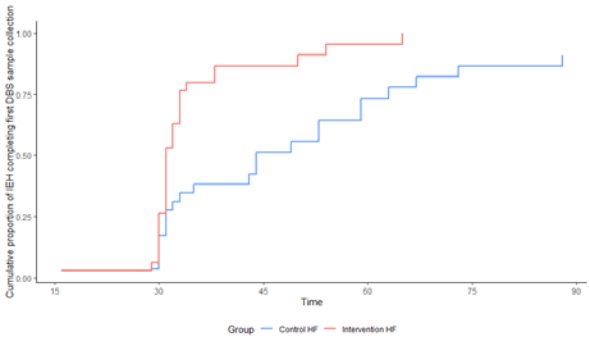


Figure. Time to first DBS sample collection for EID by intervention group, post-intervention period.

Conclusions: Community-based DBS collection is an effective and efficient strategy to decrease time to first EID to ensure timely care for IEH. This approach can be used to complement facility-based sample collection.

WEPEE121

Transformative harm reduction and empowerment strategies for PWUD: community-centric innovations in South Africa

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Background: People who use drugs (PWUD) in South Africa face numerous barriers to accessing harm reduction, treatment, and social support services. Stigmatization, limited healthcare access, and economic insecurity perpetuate health risks and hinder social reintegration.
To address these challenges, a series of targeted interventions were developed to reduce blood-borne infections, promote human rights, and support the socioeconomic empowerment of PWUD, with an emphasis on community-led initiatives and innovative outreach models.
Description: The program adopted a comprehensive, multi-tiered approach to harm reduction, treatment, and empowerment. Key initiatives included needle and syringe programs to curb infections, opioid substitution therapy to aid recovery, and the "Naloxone Project" to combat overdose fatalities.
The "Treat and Retain" program specifically addressed HIV and TB testing and retention to care among PWUD, while "Harm Reduction in Motion" provided mobile services to high-risk areas. To strengthen community engagement, peer navigators trained through the "Peer Navigator" program lead outreach and support efforts. Partnerships with local organizations further amplified the reach and impact of these interventions.
Lessons learned: Quantitative analysis revealed significant improvements in health outcomes and service uptake. Needle and syringe program distributed over 120,000 sterile syringes, resulting in a 45% decrease in reported needle-sharing practices. Opioid substitution therapy program achieved a 68% adherence rate, with participants demonstrating a 41% reduction in illicit drug use. The "Naloxone Project" trained 519 community members, leading to a documented 31% decrease in overdose fatalities. "Treat and Retain" program successfully linked 85% of participants to HIV and TB treatment, with a retention rate of 75% at the six-month follow-up. Peer navigators facilitated over 1,200 referrals to health and social services.
Conclusions/Next steps: Success of these programs underscores the value of a community-centered, peer-driven approach to harm reduction.
Challenges include the ongoing need to combat entrenched stigma and resistance to harm reduction practices in some areas.
Adaptability and close collaboration with local stakeholders have been critical in addressing these challenges and refining service delivery models.
Future efforts should focus on scaling up successful interventions, enhancing data collection mechanisms, and advocating for policy changes to support harm reduction strategies.

WEPEE122

Epidemiological trends and programmatic gaps in addressing people who use injecting drugs (PWID) and HIV control in Punjab: a NACO data-driven analysis (2017–2024)

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Background: As per Sankalak report National AIDS control organization (NACO) and other govt data sources Punjab's PWID population poses a significant public health challenge, with rising prevalence and associated HIV risks. Between 2017 and 2024, the IDU population doubled, raising concerns about intervention efficiency and long-term outcomes.
This study evaluates trends in program coverage, needle-syringe distribution, HIV testing, and linkage to Antiretroviral Therapy (ART), incorporating advanced analysis to identify key patterns and gaps.
Methods: NACO data from 2017-2024 were analyzed using time-series analysis, cohort comparisons, and correlation studies. Annual growth rates, coverage efficiency, and resource utilization trends were calculated. Statistical tools assessed relationships between needle-syringe distribution and HIV sero-positivity rates. Discrepancies in ART linkage were examined through descriptive analysis to identify systemic bottlenecks.
Results: The IDU estimation population increased by 96%, from 22,961 to 45,098 through programmatic mapping population size estimation (p-MPSE), reflecting potential underreporting or actual growth. Coverage rates peaked at 90% in 2021-22 but declined to 70% by 2023-24. Needle distribution rose steadily, achieving 40.8 million in 2023-24, correlating with a decline in HIV sero-positivity rates (R^2 = 0.88). Resource anomalies in syringe distribution in 2021-22 (241.7 million units) suggested inefficiencies. HIV testing expanded by 150%, yet ART linkage remained inadequate, with only 255-298 individuals linked annually.
Conclusions: Harm-reduction strategies, particularly needle-syringe programs, contributed to HIV control among Punjab's IDUs. However, declining coverage and inconsistencies in ART linkage highlight gaps.
Integrating predictive analytics, resource optimization, and robust linkage-to-care frameworks is essential to sustain program impact and improve public health outcomes.

WEPEE123

High interest in DoxyPEP use among sexual and gender minority adolescents in Brazil

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Background: In Brazil, HIV acquisition is concentrated among sexual and gender minority adolescents, who also face high rates of other sexually transmitted infections (STIs). Bacterial STIs such as syphilis, gonorrhea, and chlamydia significantly increase the risk of acquiring HIV. Recent studies have demonstrated the efficacy of doxycycline as a novel biomedical prevention strategy for STIs when used as PEP (DoxyPEP) among MSM and TGW. However, there is limited real-world data on DoxyPEP in lower- and middle-income countries.
This study aimed to evaluate awareness, interest, and motivations for DoxyPEP use among adolescent MSM (AMSM), non-binary individuals assigned male at birth (ANB), TGW (ATGW) and men (ATGM) in Brazil.
Methods: PrEP15-19 Choices is a prospective, multicenter PrEP demonstration cohort study targeting AMSM, ATGW, ATGM and ANB aged 15–19 years. The study is being conducted in three major capital cities in Brazil. For this cross-sectional analysis, we included 258 adolescents enrolled between September 2023 and August 2024. We examined the sociodemographic and behavioral profile of participants as well as, their awareness, interest in using DoxyPEP, and motivations for its adoption.
Results: Most participants were AMSM (74.0%), followed by ATGW (17.1%), aged 18–19 (61.6%), mixed race or blacks (74.5%), and attending high school (64.9%). A large percentage reported having had sexual intercourse with casual partners in the past 3 months (75.9%), but only a third consistently used condoms during these encounters. Additionally, 15.5% of participants reported a history of at least one STI. Most participants were unaware of DoxyPEP (93.0%); however, a substantial majority expressed interest in its use (97.7%). Reasons for considering DoxyPEP included valuing additional prevention options (73.3%), finding comfort with this prevention strategy (16.3%), recognizing that PrEP does not protect against other STIs (5.6%), and dissatisfaction resulting from past STI experiences (2.8%).
Conclusions: Adolescents from sexual and gender minority groups demonstrate a strong willingness to use DoxyPEP, despite limited awareness of this prevention strategy. Expanding its availability, improving access, and integrating DoxyPEP into the national health system are critical steps toward effectively delivering this STI prevention intervention to adolescents at high risk for STIs in Brazil.

WEPEE124

Enabling robust viral monitoring through an integrated approach and building multidimensional capacities across Eastern Africa, Southern Africa and India: a data-driven perspective

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Background: Effective HIV prevention strategies, including vaccines and antibody-mediated prevention, must overcome viral diversity. Predicting changing broadly neutralizing antibody (bnAb) resistance dynamics at the population level is challenging, necessitating continuous virus surveillance to integrate HIV-1 genetic features into vaccine candidate selection. This research is crucial for prioritizing immunogens for vaccine development and bnAb prevention approaches targeted to specific populations.
Description: This multidisciplinary initiative aims to position diverse regions and consortia as pivotal players in building an affordable and accessible platform without compromising data quality. The initiative integrates real-time data and harmonizes analysis pipelines to enable data pooling for bioinformatics, neutralization assessments to identify bnAb-resistant strains, and evaluates bnAb combination cocktails. New partnerships with complementary and synergistic strengths, including machine learning and integration with national programs, have been established. This has facilitated the creation of a sustainable virus surveillance mechanism across Uganda, South Africa, Rwanda, Zambia, Europe, the US, and India through trainings, workshops, and the exchange of protocols and reagents.
Lessons learned:

- Data from Africa and India highlight differences in the suitability assessment of historical and contemporary viruses, underscoring the importance of viral evolution in altering bnAb sensitivity over time. The program emphasizes the rise of emerging recombinants in East Africa, the creation of consolidated new virus panels for evaluating new products, and region-specific antibody cocktails for HIV prevention.
- Partnering with national programs provides easier and sustainable access to samples compared to conventional, cost-intensive cohort building.
- Machine learning algorithms have proven crucial and cost-effective for predicting bnAb sensitivity and identifying recent acquisition of HIV from sequenced data.
- An integrated analysis pipeline, robust institutional sequencing capacities, and researchers trained in advanced bioinformatic tools have enabled stronger south-south collaboration.

- Ensuring ethical and best practices for data sharing, adhering to local laws, is of utmost importance.

Conclusions/Next steps: HIV viral surveillance is essential for providing near-real-time data to guide policy and programs. This has implications for developing tailored vaccines against newly emerging variants, ensuring their continued suitability.
Additionally, it will aid in planning future efficacy trials. This strategy sets a model for cost-effective surveillance, enhancing pandemic preparedness.

WEPEE125

Sexual behavior, drug use and PrEP among people who use drugs in Uganda

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Background: Medication for opioid use disorder (MOUD) programs and syringe services programs (SSP) can be leveraged to integrate the provision of pre-exposure prophylaxis (PrEP). Whether people accessing these services use PrEP when they have potential HIV exposure through sexual and/or drug use behavior is unknown.
Methods: In a novel cohort of people accessing MOUD and SSP in Kampala, Uganda, who also initiated PrEP, we assessed sexual behavior, drug use, PrEP refills, and tenofovir levels during one-year of follow up. We used multivariable GEE models to determine associations of sexual behavior (any potential HIV risk: >5 sex acts in past 3 months, any condomless sex in past month, or a new partner; high risk: all three) and drug use (any risk: daily injection frequency, reusing a syringe, or sharing of drug use equipment; high risk: all three) with PrEP refills and plasma tenofovir levels >10ng/ml.
Results: From January 2022 to March 2024, the study enrolled 277 people (42% recruited from MOUD and 58% from SSP), of which 87% were assigned male at birth and the median age was 30 years (IQR 25-27). In 63.4% of quarterly follow up visits, participants reported sexual behavior indicating potential risk for HIV, including 5.4% of visits with high risk. In 74.1% of visits, participants reported drug injection behavior that would confer any potential risk for HIV, including 0.3% of visits with high risk. PrEP was refilled during 47.5% of visits and among those dispensed PrEP, 37.4% had tenofovir >10ng/ml. Periods with any risk (versus no risk) through sexual behavior were associated with lower odds of receiving a PrEP refill (OR = 0.68, 95% CI 0.53-0.89) and periods where participants had any risk through drug use behavior were associated with greater tenofovir concentrations (OR = 1.62, 95% CI 1.14-2.29).
Conclusions: In this cohort of people who use drugs, periods with potential HIV exposure through drug use also had greater PrEP adherence. There is an opportunity to provide tailored HIV prevention counseling to people using drugs to encourage PrEP use when drug use and/or sexual behavior provides potential exposure to HIV.

WEPEE126

Evaluating seroconverters in the current PrEP program in Malawi to determine risk factors and linkage to care

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Background: Pre-exposure prophylaxis (PrEP) has been essential in preventing HIV acquisition among high-risk populations. The Ministry of Health in Malawi implemented a national PrEP program to reduce HIV transmission in 2021, reaching 163 facilities and 157,552 individuals by April 2024. Despite its success, cases of HIV seroconversion during PrEP use have been reported.
This study aimed to evaluate seroconverters' demographic and behavioural characteristics and their linkage to ART care to inform future PrEP strategies.
Methods: A case-control study was conducted between July 2023 and September 2024 using routine data from 53 facilities in Malawi reporting at least one HIV seroconversion by April 2024. For each seroconverter, three controls matched by PrEP duration were selected, resulting in 140 cases and 420 controls. Data on demographics, HIV risk factors, PrEP adherence, and clinical outcomes were abstracted from client cards and registers. Descriptive statistics summarized the data, presenting continuous variables (e.g., age, duration on PrEP) as medians with interquartile ranges (IQR) and categorical variables as frequencies and percentages. Odds ratios from conditional logistic regression were used to assess differences between cases and controls, and linkage to ART care was described. Non-adherence to PrEP was assessed as a contributing factor to seroconversion.
Results: The median age of participants was 27 years (IQR: 22-33), with females comprising 82.2%. Seroconverters had a median PrEP duration of 4.6 months (IQR: 1.9-7.6) compared to 3.0 months (IQR: 0.9-7.0) for controls. Non-adherence to PrEP was significantly higher among seroconverters (99.3%) than controls (76.9%) (p<0.001).
Factors such as transactional sex, STI history, or older partners were reported but showed no significant differences between the two groups. Among seroconverters, 99.3% were linked to ART care, achieving viral load suppression in 96.8% at 6 months and 98.6% at 1 year.

Conclusions: This study underscores the critical role of PrEP non-adherence in HIV seroconversion. It also highlights the success of ART linkage and viral suppression among seroconverters. However, identifying a priority population based on risk factors such as transactional sex or STI history remains challenging and a focus on future research should be to refine PrEP populations to maximize public health impact.

WEPEE127

Optimizing pharmacy oral PrEP services for men who have sex with men (MSM) and transgender women (TGW) in Nigeria: an analysis of acceptability and challenges in PrEP uptake and continuation

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Background: In Nigeria, key populations (KPs), including men who have sex with men (MSM) and transgender women (TGW), face barriers to quality HIV services due to stigma/discrimination, and criminalization. However, uptake remains low among these groups in Nigeria. Dispensing PrEP through community pharmacies (CPs) offers an alternative service delivery model. The Population Council (through the Elton John AIDS Foundation funding) established Nigeria's first pharmacy-based PrEP service delivery model. This abstract outlines the five-month outcome of PrEP uptake in CPs in Lagos and Abuja.
Description: A memorandum of collaboration was signed with the Pharmacy Council of Nigeria (PCN). Selected CPs in Lagos and Abuja were trained on key populations, PrEP and PrEP service delivery for KPs; they were also introduced to a Standard Operating Procedure co-developed with PCN. Under this model, trained peer educators (PEs) provide PrEP education, HIV counselling/testing services to MSM/TGW in the community. HIV-negative high-risk clients are then referred to participating CPs. Upon arrival at the CP, clients request to see the focal person, and present the referral form from the PE. After review per the SOP, the pharmacist issues a 30-day initial oral PrEP supply and requests the client to return after one month.
Lessons learned: A total of 749 MSM/TG who tested HIV-negative (August-December 2024) were referred for PrEP at CPs. Of those referred, 692 (92%) completed referrals and received a 30-day PrEP supply; 57 (8%) did not complete referrals.
The most common reasons for not completing the referral were distance from home (40%) and uncertainty about confidentiality (53%). The majority (74%) of the 692 clients returned and received the 90-day PrEP supply.
Reasons for missing the follow-up appointment include economic issues (49%), busy schedules (31%), and pill burden (20%). Twenty-five percent of pharmacy PrEP clients were surveyed about quality -- 48% rated it as excellent, 40% as good, 12% as fair/bad.
Conclusions/Next steps: The high acceptability of pharmacy-based PrEP among pharmacists and MSM/TGW populations indicates that CPs are a promising outlet for PrEP services.
Expanding such a model can be explored for other vulnerable populations. Implementing this model requires PCN and Ministry of Health partnership.

WEPEE128

Integrating mental health screening, treatment, and care into HIV services for key populations in Zambia

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Background: Mental health issues among key populations (KPs)—including female sex workers (FSWs), men who have sex with men (MSM), people who inject drugs (PWIDs), and transgender individuals (TGs)—often go untreated, undermining HIV prevention and care. To address this, we introduced the Common Elements Treatment Approach (CETA)—an evidence-based cognitive behavioral therapy—tailored to KPs in Zambia. Here, we describe CETA implementation and preliminary outcomes integrated CETA services.
Methods: With KP civil society organizations (CSOs) and MoH, between March—November 2024, we trained and deployed CETA counselors to KP-led wellness centers to conduct mental health screening of all KPs visiting the wellness centers. To address counselor shortages, we also trained KP peer promoters in CETA. A Client Monitoring and Screening tool determined CETA eligibility according to validated scores for general distress (≥18), gender-based violence (≥1), and substance use (≥2). For those eligible, one-on-one CETA counselling was provided in 8-12 sessions over 3 months. Program data were used to assess uptake of CETA, ART, and PrEP continuation at 6-months post-initiation.
Results: Among 2,701 KPs screened (1,336 FSWs, 958 MSM, 335 PWIDs, 72 TGs), 63% (1,704) were eligible for CETA, with 49% (840) enrolled and 51% awaiting enrollment due to limited CETA personnel *(Figure)*.
Of 840 enrolled, 20% (172) completed CETA and 68% (572) remain in treatment. All the 103 (100%) KPs living with HIV who had discontinued ART restarted after CETA. Of 646 HIV-negative KPs on PrEP, 78% continued at 6 months, compared to the overall 6-month PrEP continuation rate of 67%.

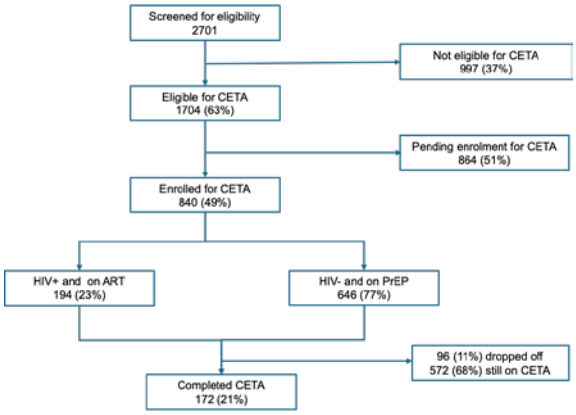


Figure. CETA uptake in the KP-led wellness centers.

Conclusions: Preliminary results show that CETA can help address mental health needs among KPs when integrated with HIV services. However, high demand for services and limited counselor availability underscores the need for expanded mental health resources and task-shifting to trained peer promoters.

WEPEE129

High levels of autonomous decision-making among women receiving multi-method pre-exposure prophylaxis (PrEP) counseling through the CATALYST study in sub-Saharan Africa

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Background: As pre-exposure prophylaxis (PrEP) products expand, providers help clients make an informed autonomous decision about which PrEP method to use. We aimed to explore how client-provider interactions during multi-method PrEP counseling shaped clients' decisions and early continuation.

Methods: CATALYST, a study implemented by the PEPFAR/USAID-supported MOSAIC project, is delivering oral PrEP, PrEP ring, and injectable cabotegravir (CAB) PrEP to women at public facilities in Kenya, Lesotho, South Africa, Uganda, and Zimbabwe. We analyzed cohort data from June–October 2024 and adapted a six-question PrEP-ADM (Autonomous Decision Making, Figure 1) scale to explore whether clients received adequate counseling and support to make an autonomous decision.

We used factor analysis to validate the scale and logistic regression to determine factors associated with fully autonomous decision-making (defined as having a "high" PrEP-ADM score, 18/18) and refilling PrEP within three months. We thematically analyzed eight in-depth cohort interviews to explore experiences with PrEP counseling.

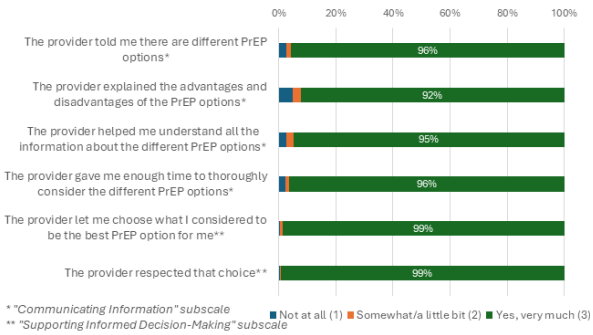


Figure 1.

Results: Overall, 91% (1,163/1,281) of participants had high PrEP-ADM scores, with no significant variation by socio-demographic characteristics. Factor analysis identified two subscales: "communicating information" and "supporting informed decision-making." Pregnant (aOR=0.36, 95% CI [0.17-0.76], p=0.008) or breastfeeding individuals (aOR=0.32, 95% CI [0.17-0.58], p<0.001) had lower odds of fully autonomous decision-making, even after controlling for country-level differences.

Additionally, those with high PrEP-ADM scores were somewhat more likely to return for a PrEP refill than those with lower scores (OR=1.77, 95% CI [0.92-3.43], p=0.089). Qualitative data confirmed that clients are receiving information about the different PrEP methods and are being supported by providers through attentive listening to make an autonomous decision.

Conclusions: Fully autonomous decision-making was high among CATALYST clients receiving multi-method PrEP counseling, indicating receipt of adequate information and support from providers. Ensuring PrEP counseling is provided equitably to pregnant and breastfeeding populations is essential. High levels of autonomous decision-making may improve PrEP continuation.

WEPEE130

Continuity on long-acting cabotegravir (CAB-LA) for HIV pre-exposure prophylaxis (PrEP): a comparison of naive and experienced clients in Zambia

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Background: Long-acting injectable cabotegravir (CAB-LA) has the potential to reduce HIV transmissions, by expanding the array of preventive options provided. However, data on CAB-LA continuity are scarce.
The USAID DISCOVER-Health project, implemented by JSI, is providing CAB-LA to both naive clients - those starting PrEP for the first time - and experienced clients, transitioning from oral PrEP.
Description: In February 2024, the project started administering CAB-LA in Chibombo and Kitwe districts. Clients were monitored at injection appointments 1,3,5,7 and 9 months from initiation. Continuity was measured as the proportion of clients who attended their scheduled visits, at the specified time points, relative to the total number expected to attend based on the elapsed time since initiation.
Lessons learned: By November 2024, 1,116 naive clients started CAB-LA (females 62%; median age 28 years), while 354 experienced clients transitioned from oral PrEP (females 58%; median age 34 years). The median time spent by the experienced clients on oral PrEP before transitioning was 306 days. For naive clients' continuity: 78% were on CAB-LA at 1 month; 62% at 3 months; 45% at 5 months; 24% at 7 months; 7% at 9 months.
For experienced clients: 80% were on CAB-LA at 1 month; 66% at 3 months; 53% at 5 months; 39% at 7 months; 16% at 9 months. The observed widening difference in continuity over time was similarly recorded across the three main age groups (15-24, 25-34 and 35+).
Conclusions/Next steps: The preliminary data suggests that experienced PrEP clients have a better continuity of treatment than naive clients. This may be attributed to their prior familiarity with PrEP regimens and their demonstrated commitment to HIV prevention over an extended period. However, further data are required to corroborate these findings and tailor strategies to bolster uptake and retention for both populations.

Implementation research to scale up treatment

WEPEE131

Trends in ART medication adherence support and monitoring across IeDEA sites: results from three waves of consortium-wide site assessment surveys, 2017, 2020, and 2023

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Background: Since 2013, global HIV treatment guidelines have included recommendations for medication adher-

ence support and monitoring. We examined trends in routine adherence support and monitoring for adults with HIV through recent consortium-wide site surveys conducted by the International epidemiology Databases to Evaluate AIDS (IeDEA).

Methods: Cross-sectional surveys were completed by clinics providing treatment for adults living with HIV across 43 countries in 2017 (n=206), 2020 (n=200), and 2023 (n=214). We examined routine adherence support and monitoring among sites completing all three surveys, stratified by country income-level (i.e., low/middle income versus high-income countries [LMICs/HICs]).

Adherence support was categorized as: none; minimal (counseling only); moderate (counseling with additional support); or enhanced (individualized counseling with peer support and other support/incentives).

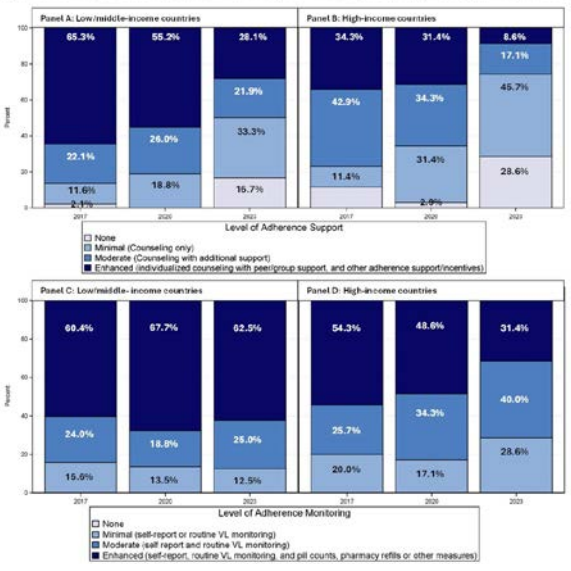
Adherence monitoring was categorized as: none; minimal (self-report *or* viral load [VL] testing); moderate (self-report *and* VL testing); or enhanced (self-report; VL testing; *and* pharmacy refill checks, pill counts; or electronic monitoring).

Results: Eligible sites included 131 clinics in health centers (57%) and hospitals (43%) in urban/mostly-urban settings (70%) and LMICs (73%). Among 96 LMIC clinics, an increasing proportion reported providing no or minimal adherence support from 2017 to 2023 (Figure, Panel A, 14% to 40%), with a corresponding decrease (65% to 28%) in reporting of enhanced adherence support.

Similar trends were observed among 35 HIC clinics, with increases in reporting of no or minimal adherence support and decreases in enhanced adherence support (Panel B).

At each timepoint, higher proportions of LMIC clinics (>60%) reported enhanced adherence monitoring (Panel C) compared with HIC clinics (31% to 54%), with more HIC clinics (17% to 28%) reporting minimal adherence monitoring (Panel D).

Figure. Trends in levels of adherence support and monitoring at 131 HIV clinics participating in IeDEA, by country income level



Conclusions: Participating IeDEA clinics reported decreased provision of adherence support over time. Further research is needed to examine whether these changes in adherence support are associated with worse HIV care outcomes.

WEPEE132

Use of men only clinics and community ART groups as differentiated service delivery models to enhance adherence in Ober Subcounty Hospital, Kenya

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Background: There is compelling evidence of men's disinclination to engage in health services. Differentiated service delivery models (DSDM) have demonstrated the potential to improve men's engagement in HIV care. Men living with HIV (MLHIV) attending the Ober clinic had a high number of missed appointments affecting treatment adherence, to address their challenges, the facility-based support group DSDM was introduced focusing on serving men separately from women and children.

The study objective was to assess the effect of men only clinics (MOC) and men only community antiretroviral therapy groups (CAGS) in enhancing treatment adherence.

Description: 355 men adult, were enrolled either in MOC or CAGS, between January and December 2023. Men with missed appointments were assigned to MOC and those with no missed appointments were assigned to CAGS. The MOC model offered the ART package as per the national guidelines including monthly psychosocial support, ART literacy, risk and harm reduction counseling, socioeconomic empowerment awareness, and the provision of a safe space within Ober hospital.

The CAGS groups held monthly sessions chaired by the peer educator with the support of the health care providers where the MOC package was offered outside the hospital. 195 were enrolled in MOC and 160 in CAGS.

The CAGS groups were further assigned into 4 sub-groups according to their social networks: 40 Brick makers, 40 motorcycle riders, 40 Widowers and 40 psychoeducation groups. To access adherence, we compared the viral loads at baseline with those one-year post study implementation.

Lessons learned: The overall viral suppression (VS) improved from 78.2% at baseline to 96.3%. By December 2023, 94% of the men in MOC and 99% in CAGS were virally suppressed , with 99% retention in the clinic.

Conclusions/Next steps: The MOC and CAGS models were successful strategies in improving treatment adherence while minimizing the burden on the healthcare system and can be adapted in similar settings.

WEPEE133

Expanding ART access through community pharmacies: lessons from South Africa's CCMDD programme during COVID-19

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Background: South Africa has one of the world's largest HIV-positive populations, making uninterrupted access to antiretroviral therapy (ART) a critical public health priority. The COVID-19 pandemic strained the healthcare system, causing overcrowded facilities and limiting capacity for ART management. To address these disruptions, the Central Chronic Medicines Dispensing and Distribution (CCMDD) programme leveraged community pharmacies to decentralise ART delivery, ensuring treatment continuity during the crisis.

Description: The CCMDD programme, initiated in 2016, was designed to reduce congestion in public healthcare facilities by providing chronic medication, including ART, through community-based pick-up points. With the onset of COVID-19, the programme expanded its scope by incorporating community pharmacies into the pick-up point network and offering multi-month dispensing of ART. Enrolment criteria were broadened to include more clients, and real-time monitoring was facilitated using geographic information systems (GIS) to address the dynamic needs of ART clients. Between March 2020 and August 2022, the number of pick-up points increased by 39%, from 2,088 to 2,906, directly contributing to expanded ART access.

Lessons learned: Including community pharmacies as ART pick-up points was essential for ensuring uninterrupted access to ART during the pandemic. The programme's flexibility, particularly in adjusting enrollment criteria and expanding pick-up points, demonstrated its effectiveness in addressing the needs of a growing number of ART clients. Over 327,000 additional clients were reached during COVID-19, resulting in a 108% increase in clients receiving ART (from 973,487 to 2,026,101). These outcomes emphasize the vital role of strategic partnerships with community pharmacies in maintaining ART continuity, especially during crises.

Conclusions/Next steps: The success of the CCMDD programme in ensuring uninterrupted ART access during the COVID-19 pandemic highlights the significance of community pharmacy involvement in health system resilience. Moving forward, ongoing partnerships with local pharmacies and innovative service delivery models will be crucial to maintaining ART access for South Africa's HIV-positive population. Additional research is necessary to assess long-term health outcomes and the impact on client quality of life, while continuous monitoring is essential to adapt to changing client needs.

WEPEE134

Scaling differentiated service delivery models: a journey towards client - centered HIV care in Zimbabwe

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Background: Zimbabwe started implementing differentiated service delivery (DSD) models for ART (DART) in 2017, and has been conducting DSD reviews annually since 2018. The DSD reviews assess implementation progress and provide peer-learning opportunities to share best practices, challenges and innovations. The 2024 DSD Review was conducted in July – August 2024.

Description: One hundred and forty eight facilities in 30 districts from four provinces in Zimbabwe participated. Data was collected using Survey CTO and analysed using PowerBI. A facility survey and individual client survey tool were used. Data was abstracted from 4,630 files for recipients of care (RoCs) in the 12, 24 and 36 months cohorts on ART.

Data was collected for services received from HIV testing to treatment outcomes, viral load monitoring and integration with TB, FP, Mental Health and NCDs. Analysis was done on the trends in DART enrolment and ART multi-month dispensing (MMD) at annual timepoints.

Lessons learned: In the 12 months cohort, DART coverage (DART-C) was 21% at 12months, in 24months DART-C was 15% at 12months and 22% at 24months, and in the 36 months cohort, DART-C was 12% at 12months, 19% at 24months and 25% at 36months. The commonest DART models were Fast Track and Community ART Refill Groups.

In contrast, significant upward trends were seen in the uptake of MMD for all three cohorts with coverage of 6MMD being 47%, 49% and 55% respectively at the last annual visit.

Conclusions/Next steps: It is evident that efforts towards making services more client centred are continually being made regardless of time on ART. Despite both DART models and MMD being available for RoCs there is clear preference for MMD versus enrolment in DART models.

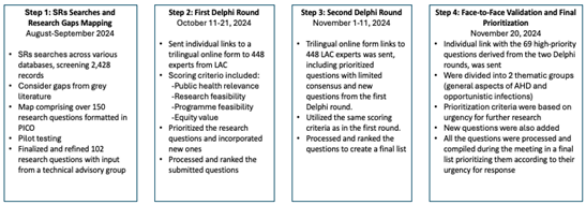
The uptake of the two services by RoCs is not mutually exclusive thus a RoC in a DART model can still receive 6MMD. RoCs are free to choose services that align with their needs, therefore the national HIV programme will continue to differentiate services for PLHIV whilst strengthening quality service provision.

WEPEE135

Development of a priority research agenda for advanced HIV disease in Latin America and the Caribbean for the period 2025-2035

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Background: Advanced HIV disease (AHD) remains a critical public health challenge in Latin America and the Caribbean (LAC), contributing to high mortality rates and healthcare disparities.
Coordinated by the Pan-American Health Organization, this study aimed to identify and prioritize research questions to guide efforts to improve outcomes for people living with HIV (PLHIV).
Methods: A modified Delphi methodology was used, involving two online surveys targeting 449 experts from 17 LAC countries, followed by an in-person meeting with 24 specialists between August and November 2024. Over 100 research questions were identified from nearly 2,500 systematic reviews (January 2014-August 2024).
Questions were prioritized based on four criteria: public health relevance, research feasibility, program feasibility and equity value. Research needs were classified by urgency for short-, medium-, and long-term responses



Results: From 2,428 systematic reviews, 102 research questions were identified. The first Delphi round (16.5%, response rate) prioritized 59/102 questions; the second round, 15.4% response rate), added 10 more. In-person validation finalized 77 priority questions, of which 42 (54.5%) required short-term responses. Frequent topics included opportunistic Infections (45%), systems/services (35%), and epidemiology (18%). Only 19.7% addressed pediatric populations. Topics were evenly distributed across the perceived urgency timeframes.

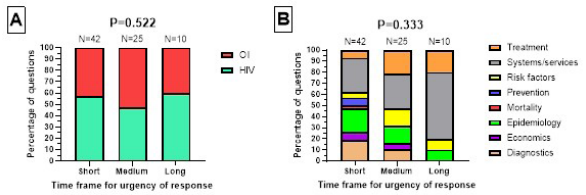


Figure 2: Here we show the categorized topics addressed in the prioritized research questions divided by the urgency time frame they were assigned during the Delphi process. These timeframes are divided in short-term (<2 years) medium-term (2-4 years) and long-term (>5 years). Panel A: here we show the questions dealing with general HIV-related problems and those related to opportunistic infections (OI). Panel B: here we show the questions categorized by type of problem addressed in the HIV continuum of care.

Conclusions: This research agenda represents a preliminary but crucial step in addressing AHD in LAC. The prioritized research questions provide a roadmap to bridge knowledge gaps and improve care outcomes for PLHIV in LAC.

Global and national financing, economic evaluation and sustainability

WEPEE136

Addressing gaps in HIV case finding: missed opportunities in first 95 coverage in non-PEPFAR sites in Mozambique

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Background: To maximize the impact of limited PEPFAR resources and address low treatment retention rates, PEPFAR investments in Mozambique are concentrated in health facilities with at least 500 individuals currently on antiretroviral therapy (TX_CURR ≥ 500). However, non-PEPFAR supported sites with increasing ART clients load (TX_CURR) are facing significant coverage gaps in the first 95. Our assessment explored the gaps and potential losses in HIV case finding opportunities in sites without PEPFAR support.
Methods: Data from a retrospective cohort study of TX_CURR in all sites with antiretroviral therapy services nationwide were analyzed. Data was extracted from PEPFAR's DATIM and Ministry of Health's DHIS2 platforms. Descriptive statistics were computed to assess the first 95 coverage gaps. The difference between total consultations and non-MCH HIV tests, multiplied by the average facility and MCH testing yield, were used to estimate the potential loss of HIV testing opportunities. Comparison between sites were made.
Results: A total of 1,649 sites with antiretroviral treatment services were included in the analysis, with a total TX_CURR of 2,001,783 people living with HIV (PLHIV) as of March 2024. Of the 1,649 sites included, only 41% receive PEPFAR support. Niassa (9%), Tete (23%), Sofala (30%), and Nampula (33%) are the provinces with less PEPFAR supported sites, while Zambézia (61%), Gaza (66%), and Maputo (92%) have more PEPFAR-supported sites. Within provinces with more PEPFAR-supported sites, we see a higher first 95 coverage: Gaza (93%), Maputo (91%), and Zambézia (90%), while in provinces with fewer PEPFAR-supported sites, we see lower first 95 coverage overall: Nampula (84%), Niassa (86%), Sofala and Tete (89%). Non-PEPFAR sites also accounted for 252,022 PLHIV, with an estimated 90,000 missed HIV case findings due to testing gaps. High numbers of potential loss of HIV testing are in the provinces with fewer PEPFAR supported sites.

Conclusions: Non-PEPFAR sites exhibit significantly lower first 95 coverage, risking 90,000 missed HIV diagnoses. The analysis highlights that achieving provincial-level first 95 coverage may not be possible without concurrent improvements in HIV testing coverage within non-PEPFAR supported sites through targeted donor support, optimized testing strategies, and improved linkage to care.

WEPEE137

NASA study on HIV sustainability in Nigeria: funding dependence, challenges, and pathways for long-term solutions

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Background: HIV sustainability in Nigeria represents the nation's ongoing efforts to maintain and expand effective HIV prevention, treatment, and care services despite significant challenges. As Africa's most populous country, Nigeria grapples with high infection rates, especially among key population, while heavily depending on international support from organizations like PEPFAR, the Global Fund, and UNAIDS. However, millions now receive antiretroviral therapy (ART), the country's reliance on external funding raises concerns about long-term program viability.
Methods: A comprehensive study examined HIV funding patterns across Nigeria's 36 states and federal capital territory, analyzing data from government institutions, donors, implementing partners, service providers, and civil society networks. Using the NASA classification system and UNAIDS Resource Tracking Tool, researchers evaluated funding sources and expenditure patterns from 2019 to 2021.
Results: The findings revealed overwhelming dependence on international donors. PEPFAR emerged as the primary funder, contributing 80%, 73%, and 76% of HIV spending across the three years studied. The Global Fund provided 11%, 21%, and 19% respectively, while UN agencies collectively contributed approximately 1% each year. Notably, domestic public expenditure from both central and state governments remained low at just 4% in 2020 and 2021.
Conclusions: This heavy reliance on external funding makes Nigeria's HIV programs vulnerable to changes in donor priorities and funding levels. The situation highlights the urgent need for increased domestic investment and stronger health system infrastructure to ensure program sustainability.
Moving forward, Nigeria must prioritize several key strategies to achieve HIV response sustainability. These include increasing domestic funding allocations, strengthening health systems, and implementing more efficient resource management practices. Success will require enhanced local ownership, integration of HIV services into broader health initiatives, and development of robust public-private partnerships.
The path to sustainability demands strong political commitment and systematic improvements in healthcare delivery systems. By focusing on these priorities, Nigeria can work toward independently managing its HIV response while maintaining and expanding access to essential services for affected populations.

Health systems, health systems strengthening and partnerships

WEPEE138

Utilizing the RE-AIM Framework to evaluate a transition clinic for adolescents living with HIV in a tertiary health facility in Nigeria

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Background: Adolescents in Nigeria transitioning from paediatric to adult HIV care often experience poorer treatment outcomes, particularly those in tertiary health facilities. In 2020, PEPFAR, through USAID-supported projects, initiated a transition clinic at a tertiary hospital – the University of Uyo Teaching Hospital (UUTH) to support the transition of adolescents living with HIV (AYLHIV) to adult care. This clinic was run by a multidisciplinary team that provided counselling and adherence support, treatment literacy and education on self-care, and held after school hours to enhance adolescent participation.
This study evaluates the intervention using the RE-AIM framework.
Methods: This mixed-methods cohort study used data from electronic medical records of AYLHIV aged 15-24 years and receiving ART at UUTH, who attended the transition clinics between November 2020 and September 2023. Feedback from AYLHIV and service providers were routinely collected as part of continuous quality improvement.
Outcomes assessed include Reach (number of AYLHIV who attended the clinic), Effectiveness (client retention in care (still receiving ART) and viral suppression (≤1000copies/ml) 12 months post-transition, by September 2024), Adoption (uptake and engagement of AYLHIV and feedback from paediatric staff on the intervention's acceptability and feasibility), Implementation (Adherence to planned clinic processes) and Maintenance (Clinic operations after 36 months).
Results: A total of 32 AYLHIV attended the clinic; 65.6% (21) were female, median age was 15.6 years (IQR:14.3 -16.9), median duration on ART was 9.7 years (IQR: 4.7-12.7), and

median duration in the transition clinic was 2.7 years (IQR: 2.7-2.9). AYLHIV accessing the service increased from 10 in November 2020 to 30 in January 2021 and 32 in March 2021. At 12 months after the intervention, 100% (32) of the YL-HIV were retained on treatment and 87.5% (28) were virally suppressed. The clinic consistently held on Tuesdays as planned, staff were receptive to the initiative, but human resource shortages and uncomfortable clinic space created challenges. Despite initial success, the clinic was discontinued after 36 months.

Conclusions: The transition clinic reached AYLHIV transitioning to adult care and effectively retained them on HIV treatment. However, the post-transition viral load level was sub-optimal and intervention sustainability was challenged by limited human resources.

HIV and development synergies

WEPEE139

Physical and sexual violence among female sex workers in Rwanda: findings from the IBBSS 2023

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Background: Female sex workers (FSWs) in Rwanda face disproportionately high risks of physical and sexual violence, with an HIV prevalence of 35.5%, significantly higher than the 3% prevalence in the general population. This violence exacerbates vulnerability to acquisition of HIV and positive health outcomes.

This study, part of the Integrated Bio-Behavioral Surveillance Survey (IBBSS) 2023, assessed the prevalence and dynamics of physical and sexual violence among FSWs in Rwanda and its implications for HIV prevention, care, and support.

Methods: The IBBSS 2023 was a cross-sectional study involving 2,541 FSWs aged 15 years and older across Rwanda. Participants were recruited using privatized network sampling. Data on lifetime and past 12-month experiences of physical and sexual violence were collected through structured interviews. Prevalence estimates with 95% confidence intervals (CIs) were calculated, disaggregated by violence type and timeframe, and analyzed using descriptive statistics.

Results: Among FSWs, 20.9% (95% CI: 18.1–23.9) reported experiencing physical violence, and 16.8% (95% CI: 14.1–20.0) reported experiencing sexual violence in their lifetime.

In the 12 months preceding the survey, 55.5% of those reporting physical violence and 55.3% of those reporting sexual violence experienced these forms of violence. Additionally, 33% (95% CI: 24.8–42.3) of FSWs experienced both physical and sexual violence in the past year.

Conclusions: The prevalence of physical and sexual violence among FSWs in Rwanda is alarmingly high, with over half of the victims reporting recent occurrences. These findings highlight critical gaps in violence prevention and support mechanisms for FSWs.

Addressing these risks is essential to achieving HIV prevention and treatment goals, particularly the 95-95-95 targets, as violence disrupts care continuity and increases vulnerability. Interventions should integrate violence prevention, and trauma-informed care to enhance the safety and well-being of FSWs.

Future studies should explore the intersection of violence with HIV treatment adherence and health outcomes to guide comprehensive policy and programmatic responses.

Integration of HIV services with other health and support services

WEPEE140

Key population-led test and treat for hepatitis C virus infection in Thailand enables rapid initiation of treatment and achieved high virological success rates

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Background: Two key populations (KP)-led clinics in Thailand have integrated hepatitis C virus (HCV) test-and-treat intervention into routine HIV-related services to address rising HCV prevalence and care barriers among key populations. We report outcomes of the first year of implementation.

Methods: Thai citizens aged ≥18 years who tested anti-HCV positive during routine services at two KP-led clinics were enrolled. They received counselling, laboratory testing (including HCV-RNA point-of-care testing), and basic examinations by trained KP-lay providers and virtual doctor consultations. Those who met simplified treatment criteria (absence of advanced fibrosis score, hepatitis B (HBV) co-infection, or other medical concerns) received 12-week oral direct-acting antivirals (DAAs – sofosbuvir 400mg and velpatasvir 100mg once daily). Sustained virological response (SVR) was measured 12-week post-treatment completion. Hospital referrals were arranged for those ineligible for simplified treatment. Descriptive analysis was conducted using STATA.

Results: From January-December 2024, 152 clients were enrolled. Median age (interquartile range, IQR) was 29 (25-36) years; 136/152 (89.5%) and 8/152 (5.3%) were men who have sex with men and transgender women, respectively. 52/152 (34.2%) were living with HIV and 14/152 (9.2%) engaged in chemsex.

Of these, 111/152 (73.0%) had active HCV-infection (HCV-RNA detected), 109/111 (98.2%) underwent pre-treatment investigation, and 85/109 (78.0%) met simplified treatment criteria, all of whom (100%) started DAAs within a median (IQR) 5.0 (2.0–7.0) days.

Fifty-three people had SVR assessment scheduled during the observation period, all (100%) completed treatment, 36/53 (67.9%) returned for testing, and 36/36 (100%) achieved SVR.

Furthermore, 24/109 (22.0%) were ineligible for simplified treatment (due to laboratory indications of fibrosis, or HBV infection). These were referred out for treatment, 11/24 (45.8%) initiated treatment within a median (IQR) 64.0 (23.0-87.0) days.

Conclusions: KP-led HCV test-and-treat intervention enabled quick confirmation of active HCV-infection, quick DAAs initiation, and high rates of treatment completion and SVR. Clients referred out for treatment often did not initiate DAAs or did so after significant delays.

To increase rates of SVR assessment, barriers for SVR testing should be explored to design and implement targeted interventions. Nevertheless, KP-led HCV test-and-treat intervention delivered in and by communities is a promising strategy to reach HCV elimination among key populations in Thailand.

WEPEE141

Community based cervical cancer screening bridging the access gap for women from hard-to-reach areas: the case of Masvingo province, Zimbabwe

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Background: Cervical is the most common cancer in women in Zimbabwe with approximately 3,000 women being diagnosed annually and close to 2,000 succumbing to the malignancy. HIV remains one of the top drivers of cervical cancer in Zimbabwe. It is estimated that in 2019 only 20% of women had access to cervical cancer screening.

Description: In collaboration with the Ministry of Health and Child Care, JF Kapnek Zimbabwe, a local NGO, is implementing the Target, Accelerate, Sustain Quality Care for HIV epidemic control, (TASQC program) in 6 districts in Masvingo province. Visual Inspection with Acetic Acid is offered to women living with HIV targeting the 25 to 49 years age group. Services are provided daily at 20 health care facilities while 150 facilities and health posts are visited quarterly for outreach services.

Between April 2022 and August 2024, a total of 86,499 VIAC screenings were done, reaching 119% of the target, which was 2500 per month. Over 40% of all screenings were done at community level with districts like Zaka (62%) and Chivi (57%) doing most of their screening at community level. A total of 115,105 WLHIV were mobilized for VIAC by community volunteers. VIAC positivity at facility level was 6% while at community level it was 5%. The difference was not statistically significant. A treatment coverage of 85% was achieved with most women treated via LEEP followed by thermocoagulation. Treatment was mostly at facility level.

Lessons learned: Some key lessons include:

- Community lay cadres are key in mobilizing their peers for VIAC screening. They can serve as a good reminder system within the community of when cervical cancer screening outreaches are due to be done and also remind WLHIV that they need to get screened for cervical cancer.
- Reaching more women continues to be limited by trained staff attrition, limited resources, competing community programs, and geographical access. Time caps for vehicle parking (donor-funded) can also act as a hindrance to implementation.

Conclusions/Next steps: Community based cervical cancer screening can be a way to scale up access to women from disadvantaged areas. Resources need to be availed to ensure more access to vulnerable women.

Innovations in data collection, monitoring and evaluation

WEPEE142

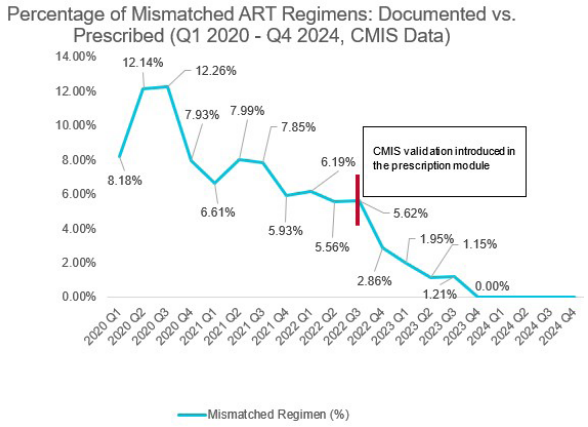
Closing the gap: enhancing ART regimen accuracy through automated validation in Eswatini's CMIS

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Background: In Eswatini, the Client Management Information System (CMIS) has been critical for patient management, including clients on antiretroviral therapy (ART). However, discrepancies in ART regimen documentation were prevalent as health care workers documented a regimen in the ART module but selected different medications in the prescription module to formulate a regimen, leading to mismatches. These discrepancies compromised data quality, hindered optimal health outcomes, and required labour-intensive manual data cleaning.

Description: To address this challenge, in September 2022, automated data validation rules were introduced in the CMIS, ensuring ART prescriptions conform to valid WHO and Eswatini HIV guidelines as well as align with the documented regimen in the ART module. To determine the efficacy of this initiative, we assessed CMIS data quality and consistency in ART regimen documentation from Quarter 1 (Q1) 2020 to Quarter 4 (Q4) 2024.

Lessons learned: Prior to implementation, ART regimen discrepancy rates averaged 8.03%, with peaks of 12.14% in Q2 2020 and 12.26% in Q3 2020. Manual data cleaning efforts contributed to a gradual decline, but significant discrepancies remained, with a rate of 5.56% recorded in Q2 2022, just before the enhancement.



Post-implementation, discrepancy rates dropped sharply to 2.86% by Q4 2022 and continued to decline, reaching 1.15% in Q2 2023 and 0.00% by Q4 2023. These levels were sustained throughout 2024, indicating the system's effectiveness in eliminating discrepancies and ensuring alignment between documented and prescribed regimens.

Conclusions/Next steps: The validation rules in CMIS substantially improved the accuracy and consistency of ART regimen documentation, ultimately ensuring optimal documentation of PLHIV, and positive health outcomes. These findings demonstrate the critical role of technology in addressing data quality challenges and better patient management.

Manual data cleaning efforts were insufficient to address discrepancies, and this intervention highlights the potential for similar digital health solutions to improve data reliability and healthcare outcomes in low-resource settings.

WEPEE143

Community-led monitoring: a pathway to improved mental health services

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Background: Mental health is a critical but often overlooked component of healthcare systems, particularly in resource-constrained settings. Community-Led Monitoring (CLM) offers a promising approach to bridging gaps in mental health service by engaging communities to assess, monitor, and advocate for better service delivery. This study explores the impact of CLM on identifying and addressing mental health challenges in underserved populations.

Methods: A cross-sectional approach was employed to collect data on mental health service delivery challenges through a combination of quantitative and qualitative methods in 13 states in Nigeria, where NEPWHAN implements CLM, within a period of January to June 2024. Study population included people living with HIV (PLHIV), Key Population (KP) and Adolescent and young People (AYP). Community iMonitor, a digital application, was used to collect feedback from community members, while focus group discussions provided deeper insights into lived experiences. Quantitative data from the app were analysed using IBM SPSS Statistics 23 while qualitative data using thematic analysis techniques.

Results: Preliminary findings reveal significant barriers to accessing mental health care, including limited availability of services, stigma, and lack of integration into broader health-systems. Out of the 17,657-self reporting, 47.9% of all the study population reported poor access to mental health services, including 48% among PLHIV, 47% among AYP, 43% among MSM, 44% among TG, 40% among PWID and 48% among FSW. The qualitative data findings shows that access to mental health and legal services were identified as major barriers to HIV treatment services by 3 out of 4 of the FGD participants.

Additionally, more than one-quarter of the respondents reported experiencing stigma and discrimination from healthcare workers. Community-led efforts highlighted critical needs, such as increased availability of mental health professionals, legal support for mental health advocacy, and access to psychosocial support services.

Conclusions: The integration of mental health into CLM frameworks has proven effective in identifying service delivery gaps and empowering communities. Addressing mental health challenges through community-driven efforts is essential for achieving equitable health outcomes

and ensuring health-system sustainability. Targeted interventions and continued engagement with policymakers are crucial to improving mental health services and reducing stigma among PLHIV, KP and the Vulnerable populations.

WEPEE144

Strengthening digital monitoring to scale up tuberculosis preventive treatment among new PLHIV in Akwa Ibom and Cross River States

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Background: Tuberculosis preventive therapy (TPT) reduces the risk of active tuberculosis among people living with HIV (PLHIV). The PEPFAR/USAID-funded ECEWS ACE-5 project identified suboptimal TPT uptake among PLHIV initiating antiretroviral therapy (ART). To address this, the monitoring system for TPT uptake was revised using the WHO health systems framework.
This study describes the revised monitoring system and reports outcomes from the intervention to improve TPT uptake among PLHIV newly initiating ART.
Description: A Power-BI dashboard, used for weekly project review meetings, was updated to disaggregate TPT data by PLHIV ART status, as either 'newly diagnosed' and 'already on ART'. Designated focal persons identified underperforming facilities during the meetings and followed up via phone calls or in-person visits to line-list eligible clients and initiate TPT. The intervention was implemented across 218 health facilities in Cross River and Akwa Ibom states from May 2024 to October 2024. In this setting, TPT was provided to all individuals at ART initiation. TPT uptake (proportion of newly diagnosed PLHIV who received TPT) was compared over six months prior to the intervention (November 2023-April 2024) and for the six months of the intervention using a chi-square test, with significance set at $p < 0.05$.
Lessons learned: A total of 9,237 PLHIV initiated ART within the period, with 56.2% initiating ART before the intervention. 69.8% were females, median age was 34 years (IQR:26-43). Overall, TPT uptake was 76.4% (7,057). TPT uptake was significantly higher during the intervention compared to the period prior (92.3% (3733/4044) vs 64.0% (3,324/5193; $p<0.001$).
Compared by age and sex, TPT uptake was also higher in the intervention period. In-person visits were more effective in addressing TPT initiation gaps than phone calls but were limited by the availability of designated focal persons. When facilities started reviewing TPT data before transmission, there were fewer gaps identified during the project-level meetings.
Conclusions/Next steps: Improving the health information monitoring system and optimizing human resources for TB/HIV services significantly improved TPT uptake among PLHIV newly initiating ART. Sustaining these gains and expanding the intervention to other locations experiencing similar gaps could further reduce the burden of TB among PLHIV.

WEPEE145

Active monitoring to improve viral load testing coverage and suppression among people living with HIV receiving care at AHF-supported health facilities in Rwanda

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Background: The goal of antiretroviral therapy (ART) for people living with HIV (PLHIV) is to achieve and maintain viral suppression. In Rwanda, viral load (VL) testing coverage is 91%, with a suppression rate of 94%. However, VL testing coverage in sub-Saharan Africa varies widely from 24.3% to 99.7%. To improve timely case management and avoid missed tests, active VL monitoring is crucial.
Due to gaps in paper-based tracking systems, AHF-Rwanda has introduced an annual chart review to validate active clients, assess VL testing coverage, and monitor suppression rates at supported health facilities.
Description: In 38 AHF-supported health facilities in Rwanda, an annual chart review activity is conducted to monitor active PLHIV in care, assess VL testing coverage, and track viral suppression rates. Healthcare providers, clinical mentors, and data teams jointly review patient files to verify facility attendance and ensure VL tests have been done within the past 12 months.
Lessons learned: The Monitoring and Evaluation (M&E) team extracts client files from OpenMRS quarterly to identify clients due or overdue for VL testing, sharing the list with healthcare providers and clinical mentors for follow-up.
This intervention has led to a significant increase in VL testing coverage, from 81.5% [range: 67.2%-96.9%] in 2019 to 95.3% [range: 85.2%-100%] in 2024 at AHF-supported health facilities.
The viral load suppression rate (<1000 copies/ml) also improved from 91.9% [80.1%-100%] in 2019 to 98.8% [range: 93.4%-100%] in 2024. Clients found inactive and those overdue for VL testing are followed up and re-engaged in care to ensure timely testing and retention.
Conclusions/Next steps: Annual chart review has proven to be effective in improving viral load testing coverage and suppression rates. This active monitoring process en-

hances the quality of care, ensures better outcomes for PLHIV, and fosters a collaborative environment between data team and healthcare providers.

WEPEE146

Introducing data sheets: improving HIV data visibility and use for data-driven decision making at sub-national and facility level

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Background: HIV Testing Services (HTS) data is routinely collected at facility level and reported up to national level. However, gaps remain in data visibility and use at sub-national and facility levels to guide evidence-based decisions.

To address this, with support from CHAI, seven districts introduced the data sheet approach – a sustainable, low-cost solution to provide usable insights for decision making at district and facility level.

Description: Data sheets are tailored summaries of facility level HIV program indicators developed using current data systems (Scanform, DHAMIS and DHIS2) for use by district coordinators to inform decision making during facility-based mentorship and sub-national TWGs. The approach built the capacity of HIV district teams to extract data and develop tailored analyses to more effectively identify and address key bottlenecks.

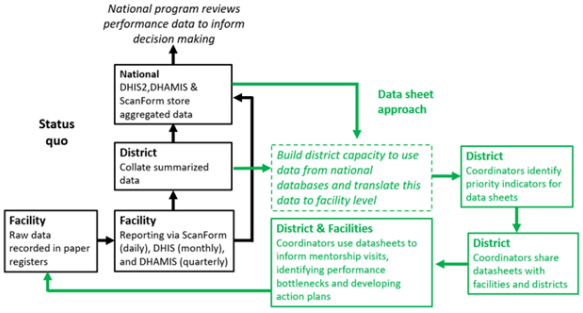


Fig. 1. Data sheet approach integrated into existing facility level mentorship.

Lessons learned: Data driven mentorships improved service delivery (Fig. 2) with some findings from the mentorship taken to sub-national TWGs for solutions. For example, data sheets and mentorship in Blantyre district revealed a gap in testing coverage at Maternity. Coordinators presented this to the sub-national TWG, where interventions resulted in a 21% increase in testing coverage at the affected Maternity sites.

Key lessons included accounting for biennial district coordinator turnover when building sustainable district level capacity. Training the entire district team to ensure institutional knowledge, supported by a forthcoming handbook on the data sheet development process, and closer coordination with PEPFAR partners, helped to address sustainable integration.

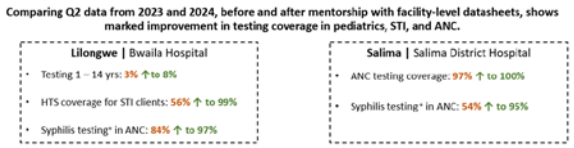


Fig. 2. Impact of data driven mentorship in facilities in Lilongwe and Salima.

Conclusions/Next steps: The data for decision making approach is an effective intervention and recommended for scale-up and integration into the national M&E system.

Host immune responses

THPEA007

Natural killer cell metabolism in PLWH and the effect of ART timing

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Background: Natural killer (NK) cells are critical mediators of antiviral immunity. Immunological impairment by HIV-1 leads to expansion of a functionally aberrant CD56^{neg} NK cell subset. Antiretroviral therapy (ART) differentially rectifies immune damage caused by HIV-1, depending on the timing of ART initiation; however, the biological mechanisms underlying this immune restoration are not well understood. Metabolism is key to the modulation of cellular activities and deciphering mechanisms associated with antiviral immune function may prove beneficial in correcting NK cell dysfunction. We investigated the impact of HIV-1 infection and ART timing on NK cell metabolism.

Methods: Thirty-four females living with HIV-1 from South Africa who initiated ART during either very early acute HIV-1 infection (AHI) (N=18) or chronic HIV-1 infection (CHI) (N=16) were enrolled. PBMC samples collected pre- and post-ART initiation were available to assess uptake of fluorescently tagged metabolic surrogates and mitochondrial staining in NK cells by flow cytometry.

Results: All 34 participants had comparable CD4+ T cell counts after 12 months on ART, irrespective of the timing of ART initiation. AHI was accompanied by a transient increase in NK cell frequencies with ART initiation during AHI preserving NK cell frequencies and NK cell subset distributions for up to 12 months post-ART initiation.

In comparison, NK cell subset proportions in CHI were skewed toward expansion of $CD56^{neg}$ NK cells and a decline of $CD56^{dim}$ NK cells for up to 12 months post-ART initiation. $CD56^{neg}$ NK cells in CHI displayed significantly lower glucose uptake compared to the $CD56^{dim}$ NK cell subset prior to and up to 12 months after ART initiation, whereas the uptake of fatty acids and amino acids by $CD56^{neg}$ NK cells were comparable to $CD56^{dim}$ NK cells.

Furthermore, $CD56^{neg}$ NK cells exhibited higher mitochondrial mass and lower mitochondrial membrane potential compared to $CD56^{dim}$ NK cells pre- and post-ART initiation.

Conclusions: HIV-1 induced expansion of a $CD56^{neg}$ NK cell subset with reduced glucose uptake and mitochondrial perturbations that persist for at least 12 months when ART was initiated in CHI.

Notably, accumulation of metabolically impaired $CD56^{neg}$ NK cells was largely prevented when ART was initiated during AHI.

THPEA008

Total HIV DNA and inflammatory profile in older People with HIV: no evident association with the aging process within one year of follow-up

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Background: People with HIV (PWH) have longer life expectancy thanks to improved ARV regimens. Still, HIV-driven persistent immune activation and higher reservoir size and activity, might synergize with the aging process contributing to earlier and more frequent age-related comorbidities.

This sub-study aimed to assess the inflammatory profile and the viral reservoir dynamics of people over 50 years old with HIV to the AGING/CCASAnet cohort, at baseline and one-year later as a follow-up.

Methods: Forty participants from Argentina belonging to the CCASAnet/Aging Research Network were enrolled: age ≥50 years old, on antiretroviral therapy (ART) ≥6 months and undetectable (UD) viral load (VL). Blood samples were obtained at enrollment (baseline, BSL) and after twelve months (12m). VL, CD4 count, Montreal Cognitive Assessment (MoCA) score and comorbidities were registered. Plasma cytokines (IL-1β, IL-6, IL-8, IL-10, IL-17a, TNF-α, MIF, IP-10) were measured by ELISA and LEGENDplex. Viral reservoir (total HIV DNA) was quantified by qPCR. Data were analyzed by nonparametric statistics.

Results: Out of the forty participants, 72% were male; median age: 62 years (IQR: 57-67); median time with UD VL: 9 years (IQR: 5-14.5); BSL median CD4 count: 745 cells/mm^3 (IQR: 521-975). IL-6, TNF-α, and MIF levels significantly increased from BSL to 12m ($p<0.0001$, $p=0.0298$, $p=0.0002$, respectively). Total HIV DNA showed no differences between BSL and 12m. Noteworthy, 40% of females and 69% of males showed higher HIV DNA levels at 12m compared to BSL. No significant correlations were observed between HIV DNA and VL, CD4 count, plasma cytokines or MoCA score. Even more, HIV DNA was inversely correlated with the number of comorbidities (BSL: $r=-0.4585$, $p=0.0108$; 12m: $r=-0.4221$, $p=0.0317$).

Conclusions: In this cohort of PWH aged ≥50, with a wide variability regarding time on suppressive ART, a progressive elevation of proinflammatory cytokines was observed, while the HIV reservoir remained stable within the short time-frame evaluated here.

Contrary to our initial hypothesis, the size of the HIV reservoir was not associated with cognitive function, as measured by MoCA, and was lower in PWH with a higher number of comorbidities.

Further studies with a more in-depth characterization of the reservoir over an extended period are warranted.

THPEA009

Cannabinoid receptor 2 agonists alter immune responses and decrease neuroinflammation in HIV infected humanized mice

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Background: Despite effective control of HIV replication by antiretroviral therapies, a significant number of patients develop HIV-associated neurologic disorders (HAND). HAND is attributed to chronic immune activation, ongoing neuroinflammation and blood brain barrier (BBB) compromise.

We have recently shown that factors implicated in HAND pathogenesis could be mitigated by cannabinoid receptor 2 (CB_2) stimulation.

Methods: We have, for the first time, tested the effectiveness of three novel non-toxic and orally bioavailable CB_2 agonists provided by Roche Pharmaceuticals in chronic HIV infection using the huNSG mouse model. Using non-forceful feeding as the method of daily administration, we studied effects on HIV infection up to 12 weeks.

Results: All tested CB_2 agonists attenuated immune activation markers in the blood; however, none had an effect on HIV viral loads *per se*. The CB_2 agonists diminished im-

mune activation in the spleen and normalized cytokine profile in the blood. CB_2 agonists dampened microglial activation and improved expression of tight junction protein that stabilize the BBB. we evaluated microglial reaction (IBA1) and expression of the tight junction (TJ) protein, claudin-5 (indicator of BBB integrity), assessed by semi-quantitative analyses.

Moderate microglia reaction was detected in HIV-infected animals by IBA1 immunostaining and it was significantly higher as compared to untreated uninfected animals. Treatment with all agonists decreased microglial activation to almost control levels.

HIV infection was associated with significantly diminished claudin-5 expression as compared to controls, and administration of CB_2 agonists significantly improved TJ staining. Human HLA-positive mononuclear cells were found within meningeal and less often within cortical microvessels.

Some cells appeared in perivascular spaces. HIV-infected mice showed a trend in increased HLA+ cells. However, CB_2 agonist diminished the presence of such activated cells.

Conclusions: Our results indicate that orally administered CB_2 agonists diminished excessive immune activation, improved TJ expression and attenuated neuroinflammation. However, they failed to suppress HIV replication *in vivo*. Novel orally bioavailable CB_2 agonists warrant further investigation as candidates to be included in a HIV treatment regimen.

Understanding and targeting persistent HIV reservoirs

THPEA010

Networked cytotoxic T lymphocyte epitopes exhibit markedly reduced mutability in the latent HIV reservoir

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Background: The persistent HIV latent reservoir presents a formidable challenge to achieving a functional cure for people living with HIV (PLWH) following anti-retroviral therapy (ART) cessation. A major challenge in Cytotoxic T lymphocyte (CTL) based strategies to control viral rebound has been the emergence of escape mutations, which allow HIV to evade immune detection. However, we identified a unique subset of CTL epitopes, termed networked epitopes, that are structurally constrained from mutation and are preferentially targeted by individuals who naturally control HIV.

In this study, we investigate whether networked epitopes serve as viable targets within the latent HIV reservoir, offering a promising avenue for a more effective and durable CTL mediated suppression of the virus.

Methods: To assess mutational frequencies of networked and non-networked epitopes within the reservoir, we performed integrated proviral and near full-length individual proviral (FLIP) sequencing on genomic DNA isolated from CD4+T cells of 22 PLWH who were fully suppressed on ART. Using a validated computational pipeline, we conducted detailed mutational sequence analysis of viral epitopes, assessing both the quantity and quality of mutations. We investigated the ability of CTLs to cross-recognize both wild-type (WT) and mutant (mt) epitopes, networked and non-networked, via cross-reactivity assays.

We examined the differential capacity of CTLs targeting networked and non-networked epitopes to eliminate target cells.

Results: Networked epitopes exhibited a significantly lower mutation frequency than non-networked epitopes in integrated ($P<0.0001$), and near full-length proviruses. The trend remained consistent in epitopes restricted by individual HLA class I haplotypes ($P<0.0002$).

Non-networked epitopes exhibited a marked enrichment for cumulative, conservative, and non-conservative mutations. CTL responses to highly networked epitopes maintained robust recognition of mutated variants, whereas mutated non-networked epitopes exhibited a significant reduction in recognition.

We hypothesize that CTLs targeting networked epitopes will exhibit superior target cell elimination compared to those targeting non-networked epitopes.

Conclusions: NNetworked epitopes exhibit markedly fewer mutations within the latent reservoir of ART-suppressed PLWH. CTLs recognize mutants of high networked epitopes better than mutants of non-networked epitopes. These results suggest that networked epitopes represent a set of mutationally constrained targets for therapeutic T cell vaccines that may enable durable viral suppression following ART cessation.

THPEA011

People living with HIV and TB has a reduced reactivation potential and an increase T cell exhaustion

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Background: This study investigates the impact of latent tuberculosis infection (LTBI) on HIV persistence, focusing on T cell activation, response to latency-reversing agents (LRAs), and reservoir size in the HIV-LTBI persons. Provirus persistence in resting memory CD4+ T cells is the primary

barrier to curing HIV, and acquiring *Mycobacterium tuberculosis* exacerbates immune activation, potentially enlarging the HIV reservoir. In Ghana, routine screening and treatment for LTBI in people living with HIV are rare.
Methods: We screened 390 individuals living with HIV for latent tuberculosis infection (LTBI) and identified 37 cases (viral load <50 copies/ml) using the QuantiFERON®-TB Gold Plus assay. Of the 37 people with LTBI, T cell activation and exhaustion markers were assessed in 15 using flow cytometry, and respon3ses to LRAs in 10 (Vorinostat and MC1568) were measured ex vivo using RT-qPCR.
Results: Our results indicate that activation markers, such as CD69, CD25, HLA-DR, and CD38 are highly expressed in T cells isolated from people living HIV but not the HIV-TB persons. Conversely, we are found, high expression of PD1, LAG-3, and CD244 exhaustion markers on CD4+ and CD8+ T cells among the people living with HIV and TB. HIV reactivation potential was 20-fold in people living with HIV-only compared to 14-fold in the HIV-TB people, suggesting stronger immune activation and T cell exhaustion in these persons.
Conclusions: This suggests that there is stronger immune activation in the HIV-TB people resulting in T cell exhaustion which may impact response to latency reversing agents and reservoir size. It implies that alternative cure methods, or at least more aggressive latency reversal agents, will be necessary for these group of people (HIV-TB individuals). Additional research on reservoir size is ongoing, with results to be presented at IAS 2025.

Novel treatment and prevention strategies, vaccines and immunotherapies

THPEA012

Immunological features associated with the development of broadly neutralizing antibodies and Fc-effector functions in people living with HIV-1 subtype C

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Background: The induction of broadly neutralizing antibodies (bnAbs) is highly desired for an effective vaccine against HIV-1. Few host genes and immune profiles were associated with the development of bnAbs. However, the functional impact of host genes in immune cell subsets and their association with the development of bnAbs are not fully understood. This study aims to assess the role of host gene transcripts and immune profiles associated with development of bNAbs and fc mediated function during acute HIV-1 clade C acquisition.
Methods: Bulk RNA-sequencing (RNA-seq) was performed in 25 chronically HIV-1-subtype C cohort in Durban, looking at individuals who developed bnAbs and without bnAbs. Furthermore, in-vitro co-culture of CD4+ T cells, B cells and NK cells was performed on healthy donors and flow cytometry was performed to quantify the frequency of class-switched memory B cells, plasmablasts and IgM positive B cells. Total IgG antibody production was measured using ELISA
Results: We identified five genes (CD244, KLRK1, BTK, CCR6 and MAPKAP1) that were upregulated in the group that developed bnAbs. These genes play a key role in the development and maturation of B cells and they stimulate antibody-mediated effector functions.
Furthermore, natural killer cells reduced the frequency of plasmablasts, IgM and IgG antibody production, while the frequency of class-switched memory B cells increased.
Conclusions: These findings suggest that genes that enhance B cell proliferation and maturation are upregulated in participants that develop bnAbs. However, activated NK cells reduce the maturation of B cells and antibody production.
This study may generate crucial information on host immune factors that should be considered in the design of future neutralizing antibody-based therapeutic and preventive vaccines.

HIV-associated viruses, co-infections and co-morbidities

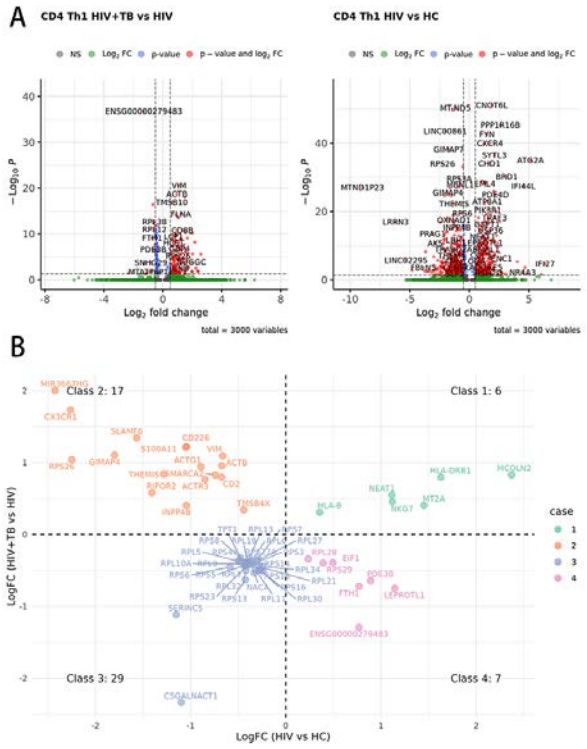
THPEA013

Dissecting early Th1 immune signatures in HIV/TB coinfection using a novel quadrant-based differential gene expression method

Z. Zhao[1,2], S. Huang[2], W. Huang[2], W. Song[2], L. Liu[2], J. Chen[2], R. Zhang[2], Y. Shen[2]
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Background: *Mycobacterium tuberculosis* (MTB) remains a leading cause of mortality in HIV/AIDS patients. The 2024 Global Tuberculosis Report states that 1.25 million TB-related deaths occurred in 2023, with around 160,000 in HIV co-infected patients. Therefore, early diagnosis and immunological characterization of TB in HIV/AIDS populations are critical.
Methods: We collected peripheral blood mononuclear cells (PBMCs) from three newly diagnosed HIV/AIDS patients and three HIV/AIDS patients co-infected with MTB. Single-cell RNA sequencing focused on T cells, with Th1, Th2, and Th17 subpopulations annotated. Pairwise comparisons of Th1 cells (HIV_TB vs. HIV, HIV vs. HC) were conducted, and a novel method, common_de_marker_selection, was developed to visualize differentially expressed genes(DEGs) in both comparisons.

Results: Volcano plots are shown in Figure 1A, and shared DEGs in Figure 1B. Class 1 was enriched in processes such as "leukocyte mediated cytotoxicity" and "detection of bacterium" reflecting heightened Th1 immune activation under dual pathogen pressure. Class 2 highlighted T cell differentiation, IFN-γ production, and chromatin remodeling complexes (BAF/npBAF/GBAF), suggesting a compensatory or reactivated Th1 response upon TB coinfection. Class 3 encompassed ribosome biogenesis and protein translation pathways, implying a global translational repression potentially linked to chronic viral infection and nutritional/energetic stress. The significant downregulation of SERINC5 in both groups suggests that TB coinfection may enhance HIV particle entry into host cells. Class 4 included regulation of ferroptosis regulation and negative regulation of integrin-mediated adhesion, suggesting partial readjustment of HIV-induced pathways by TB.



Conclusions: Our new methods reveal that HIV/TB coinfection elicits complex Th1 immune responses. While some pathways are amplified (Class 1 and 2), others are profoundly suppressed or rebalanced (Class 3 and 4), and potential molecular markers, such as SERINC5, can also be identified.

These findings highlight that in HIV/TB coinfection, pathways are not "simultaneously suppressed or activated," but exhibit a finely tuned, spatiotemporal interplay.

THPEA014

Programmed Cell Death Protein-1 expression on monocytes and T-cells is associated with mortality from HIV-associated cryptococcal meningitis

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Background: HIV-associated cryptococcal meningitis (HIV-CM) accounts for up to 19% of all HIV-related deaths. Impaired host immune responses at presentation are associated with poor outcome but have not been clearly defined. Mice models of cryptococcal disease have demonstrated that persistent pulmonary disease is associated with increased and sustained Programmed Cell Death-1 (PD-1) expression on lung lymphocytes and that PD-1 blockade significantly improves pulmonary fungal clearance. Knowledge of the role of the PD-1 signalling pathway in human cryptococcal disease is limited.

We investigated PD-1and Programmed Cell Death Ligand-1 (PD-L1) signalling in peripheral blood mononucleocytes (PBMC) of individuals with HIV-CM.

Methods: We enrolled a consecutive sub-sample of participants with laboratory confirmed HIV-CM recruited into the AMBITION Phase 3 trial in Botswana, Malawi and Uganda. PBMC collected before treatment were immuno-

phenotyped and analysed by 8-color flow cytometry according to established protocols. Clinical outcomes and laboratory data were documented during 10-weeks of follow-up. Associations between immunophenotypes and mortality were investigated.

Results: 79 participants were enrolled into the sub-study between 2018-2019. 44% were male, median age was 36 (IQR 31-41 years), and median CD4 count 33 (IQR 12-73 cells/uL). Overall mortality was 9% (7/79) by 2-weeks, and 19% (15/79) by 10-weeks. PD-1 and PD-L1 surface expression on monocytes ($p<0.001$) and PD-1 expression on T-cells ($p<0.01$) was significantly higher in non-survivors than survivors at both 2- and 10-weeks (Figure 1).

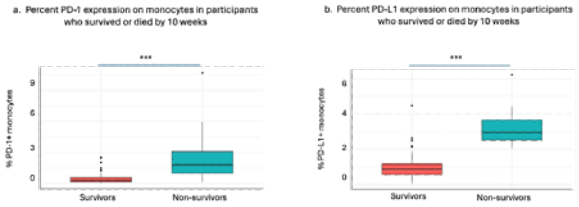


Figure 1.

Conclusions: PD1 expression on monocytes is associated with poor outcomes in HIV-CM in humans, replicating findings from animal studies. Further research is needed to determine the value of PD1 to stratify management of individuals with HIV- CM and determine whether PD1 blockade could improve clinical outcomes.

THPEA015

Genome-wide association study identifies novel variants associated with mortality in individuals with HIV-associated cryptococcal meningitis

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Background: Cryptococcal meningitis primarily affects individuals with advanced HIV disease and two-week mortality in high-prevalence settings remains high (15-20%) despite effective antifungal therapy. There is a poor understanding of how compromised immune responses contribute to these outcomes. We conducted a Genome-Wide Association Study (GWAS) of individuals with HIV-associated cryptococcal meningitis to identify genetic determinants associated with mortality.

Methods: We genotyped participants recruited into the AMBITION trial from Botswana, Malawi, South Africa, Uganda and Zimbabwe using the Illumina Global Screening Array beadchip (Illumina, San Diego, USA). Each SNP was assessed by linear regression with PLINK comparing participants who died within two weeks with those that survived.

A subset of participants also had baseline cerebrospinal fluid analysed using multiplex Luminex immunoassays for cytokine quantification as well as bulk transcriptomics for differential gene expression.

Results: We included 828 participants; 103 died and 725 survived at two weeks. 53 SNPs were significantly ($P < 10^{-4}$) associated with 2-week mortality but did not reach genome-wide significance ($P < 10^{-8}$).

Functional annotation of these SNPs identified 2 associated with regulation of complement cascade (rs73079108 in an intronic region *CSMD2* and rs923879 upstream of *C4BPA* and downstream of *C4BPB*).

Another intronic SNP (chr12-6486831) was present in the gene *LTBR,* a receptor for TNF-α, and one SNP (rs7981864) was downstream of *LCP1,* which encodes an actin-binding protein that activates T-cells through co-stimulation with CD3. Gene set enrichment analysis of the transcriptomics data found genes associated with the classical complement pathway (*C1S*, *C1QB*) were overexpressed in participants that died (Log2 fold-change > 2, $P < 0.05$). Quantification of TNF-α showed a significant association between higher TNF-α concentrations and survival ($P= 0.0435$).

Conclusions: In the largest GWAS of individuals with HIV-associated cryptococcal meningitis to date we identified novel genetic biomarkers associated with mortality. We confirmed the GWAS association between mortality and overexpression of complement and the suppression of TNF-α signalling pathways with transcriptomics and multiplex immunoassays. These represent new potential treatment targets for severe disease.

Emerging, re-emerging and neglected virus: epidemiology, pathogenesis, host immune responses, vaccines, immunotherapies and overlap with HIV acquisition

THPEA016

Antibody neutralization capacity among SARS-CoV-2-infected individuals in Cameroon increases overtime

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Background: Understanding how our immune system responds to SARS-CoV-2, especially as the virus evolves, is crucial to predicting vaccines response across time. This study investigates antibody responses against SARS-CoV-2 variants in individuals across different time points with emphasis on variants of concern.

Methods: Plasma from 45 individuals following SARS-Cov-2 infection were collected at three dates corresponding to the day of diagnosis, 14- and 4Cross 4-days post-diagnosis. The cohort consisted of 49% symptomatic and 51% asymptomatic individuals, all with no prior vaccination history, and recruited during the pre-Omicron era. We evaluated binding responses using MSD variant pates with 9 antigens including CoV2-S, B.1.1.7, B.1.617.2, B.1.351, B.2.12.1, BA.1, BA.5, BA.2.75, and BA.2 as well as CoV-2-N.

The breadth of neutralization was determined with neutralization ID50 obtained after Luciferase based neutralization assay. The pseudoviruses used for Neutralization were respectively D614G.1, B.1.1.7. B.1.351. B.1.617.2, BA.2.86, BA.1, and BA.4/BA.5.

Results: Binding showed a time-dependent increase in reactivity across all variants with Omicron subvariant BA.2.86 showing highest reactivity (~80%). Antibodies titers however were significantly higher in early emerged variants (P<0.01). Symptomatic and Asymptomatic group exhibited similar trend with higher neutralizing titers in Symptomatic group (P=0.03). At baseline, antibodies titers were approximately 2x lower in variants compared to D614G.1. Overall, neutralization titers increased post diagnosis.

Considering that these titers correspond to primary infection, we generally observed a relative loss in breadth against most variants (gain<0).

Conclusions: These results suggest that immune responses to SARS-CoV-2 variants in Cameroon evolve over time, particularly against early variants. Immune response to early SARS-CoV-2 infection is broadly neutralizing against most variants of concern and this could have contributed to reducing morbidity and mortality in Africa.

Course of HIV disease

THPEB017

Geographic disparities in advanced HIV disease prevalence: identifying drivers in high-burden states to guide targeted public health strategies

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Background: Advanced HIV disease (AHD) remains a significant driver of morbidity and mortality, with notable geographic disparities in prevalence across Nigeria. This study investigates factors contributing to AHD in high-burden states to inform targeted public health interventions.

Methods: A cross-sectional study analyzed data from 12,000 people living with HIV (PLHIV) enrolled in care from 2018 to 2023 in six high-burden states. AHD prevalence was assessed using WHO criteria, and logistic regression was employed to identify predictors, including late presentation, ART coverage, and co-infections. Advanced statistical techniques, such as multivariate decomposition analysis, quantified the contribution of regional factors to observed disparities.

Results: AHD prevalence was significantly higher in northern states (48%) compared to southern states (27%, p < 0.01). Logistic regression identified late HIV diagnosis (aOR: 4.3, 95% CI: 3.6–5.2), poor ART adherence (aOR: 3.8, 95% CI: 3.1–4.7), and higher rates of tuberculosis co-infection (aOR: 2.9, 95% CI: 2.4–3.5) as significant predictors in the north. Decomposition analysis revealed that 62% of regional disparities were attributable to healthcare access and infrastructure gaps, while socioeconomic factors accounted for 28%.

Conclusions: Geographic disparities in AHD prevalence are driven by systemic inequities, co-infections, and delayed care initiation. Strengthening early diagnosis, ART coverage, and healthcare infrastructure in high-burden states is essential to addressing these disparities and improving outcomes for PLHIV in Nigeria.

ART resistance

THPEB018

Gender disparities in HIV transmitted drug resistance: evidence of rising resistance among women of childbearing potential in Argentina

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Background: In women of childbearing potential (WOCP), understanding the prevalence of transmitted drug resistance (TDR) is crucial for selecting first-line antiretroviral therapy (ART) that ensures both virologic suppression and safety during pregnancy, while minimizing the risk of vertical transmission.
Furthermore, effective neonatal prophylaxis relies on the absence of resistant strains in mothers, as this impacts the effectiveness of ART administered to newborns. However, WOCP are often underrepresented in TDR surveillance studies. Therefore, this study aims to assess trends in TDR in WOCP in Argentina.
Methods: A post hoc analysis was conducted using data from a TDR resistance database derived from reference HIV clinics in Argentina (2016-2022). WOCP were defined as individuals aged 15-49 years. Mutations associated with resistance to reverse transcriptase inhibitors and protease inhibitors (PIs) were identified using the WHO mutation list (hivdb.org/s/who). Trends in TDR among WOCP were compared with those observed in cisgender men.
Results: Samples from 258 WOCP were included. The median (IQR) age, CD4 T-cell count, and viral load were 36 years (30-41), 358/µL (221-559), and 31,350 copies/mL (7,350-105,000) respectively; ninety-six percent acquired HIV sexually, and 86% were asymptomatic. Overall the prevalence of TDR was 14%, with 11% for non-nucleoside reverse transcriptase inhibitors (NNRTIs), 2.7% for PIs and 1.9% for nucleoside reverse transcriptase inhibitors (NRTIs). Predominant mutations included K103N (5.4%), Y181V (2.3%) and K103S, G190A and M41L (1.6% each).
Overall TDR increased through the years (p = 0.034): 2016/17, 9.6%; 2018, 9%; 2019, 11%; 2020, 21%; 2021/22, 36%, mostly at expense of PI resistance (2016/17: 2.7% vs 2021/22: 18%, p = 0.002). This increasing trend was not observed in cis-gender men (n = 1354), with overall TDR rates as follows: 2016/17, 9.4%; 2018, 14%; 2019, 11%; 2020, 13%; 2021/22, 12% (p =0.4).
Conclusions: This exploratory study shows an upward trend in TDR among WOCP in Argentina, suggesting a gender-specific pattern that warrants attention and was not previously described in the region.
These findings highlight the critical need for greater representation of WOCP in TDR surveillance studies to better understand the underlying factors driving resistance patterns and to support general and perinatal ART guidelines.

THPEB019

Evaluation of people living with HIV presenting with dolutegravir resistance in Kenya

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Background: Dolutegravir (DTG) was introduced in Kenya in 2017 for use in people living with HIV (PLHIV). HIV drug resistance (HIVDR) data is limited in PLHIV failing on DTG-based regimens in real world settings. We describe characteristics of PLHIV with DTG HIV drug resistance (HIVDR) mutations from seven high HIV prevalence counties in Western Kenya.
Methods: Results from PLHIV failing DTG-based regimens with documented viral loads (VL) >1,000 copies/mL) submitted for HIVDR testing were reviewed in November 2024. Client plasma samples were amplified before genotyping at research laboratories from July 2020 to October 2024 with DR sequencing for samples >200 copies/mL and Drug Resistance Mutations (DRMs) identified using Stanford HIVdb. Clinical, demographic and treatment data for those with DTG resistance was abstracted from client summaries shared with the NyaWest HIV Regional Clinical Technical Working Group.
Results: Out of 209 samples received, 98 (47%) had HIV-1 VL >200 cp/mL and were successfully genotyped with only 22 (11%) having major INSTI DRMs. 16 (73%) with INSTI resistance were treatment experienced PLHIV with multiple DRMs while 3 (14%) were on 1st line TDF/3TC/DTG and only had 1 DRM each after 17 – 49 months on therapy. The age range was 9 – 61 years while 12 (55%) were male. Mean CD4 count was 283.2 cells/uL; 7 (32%) were on treatment for tuberculosis co-morbidity while 14 (64%) had never suppressed on DTG before HIVDR testing. After switch decisions, 9 of 22 (41%) have achieved viral suppression below 50 cp/mL and 11 (50%) have VLs >1,000 while 2 (11%) died before any switch decision.
Conclusions: Most (89%) PLHIV with high VLs on DTG-based ART did not have DRMs and can re-suppress with adherence support. ART-experienced clients were more likely to report high level resistance to DTG compared to ART naïve clients on DTG-based ART.
The findings imply that adherence support in PLHIV failing DTG-based regimens should target those with prior treatment failure, viral non-suppression or TB-HIV co-morbidity. Our data shows that DTG resistance is likely to increase and may negatively impact future effectiveness of long-acting cabotegravir, thus making a case for continued monitoring of HIV drug resistance of INSTI-based regimens.

Pandemics, conflict and climate

THPEB020

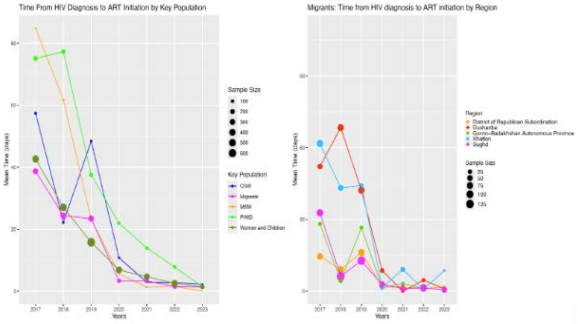
Minimizing COVID-19 disruption on the timely initiation of antiretroviral therapy (ART) following HIV diagnosis: lesson learn from Tajikistan

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Background: The timely initiation of antiretroviral therapy (ART) post-HIV diagnosis is crucial for health outcomes. The COVID-19 pandemic has disrupted health services. This study aims to assess the extent to which COVID-19 has impacted HIV services in Tajikistan, particularly among key populations.

Methods: We analyzed national-level data from the Tajikistan Ministry of Health, focusing on 4,928 individuals living with HIV from 2017 to 2023. Time to ART initiation was assessed before, during, and after the COVID-19 pandemic, considering key populations (PWID, MSM, CSW, women, children), demographics (age, gender), region, area of residence, and labor migrant status. Trajectory plots were used to identify trends in linkage to care.



Results: 57.43% of the sample were 19-39 years old, 53.31% were female, and 57.31% resided in rural areas. In 2017, pre-COVID-19, mean times from HIV diagnosis to ART initiation exceeded 30 days for all key populations, with CSW experiencing fluctuations from 2017-2020. PWID and MSM consistently had longer mean times (>60 days) compared to other key populations in 2017-2018, with MSM showing a steeper decline pre-COVID-19. From 2019 onward, mean times decreased across all groups, with a dramatic reduction by 2023. Labor migrants had shorter mean times than PWID and MSM but significant regional disparities persisted, such as migrant HIV cases in Dushanbe taking approximately 70 days longer to initiate ART pre-COVID-19 compared to other regions like the Districts of Republican Subordination, Gorno-Badakhshan Autonomous Province, and Sughd. Post-COVID-19 Khalton was more impacted compared to other regions.

Conclusions: While the COVID-19 pandemic disrupted global health services, Tajikistan successfully minimized its impact on linkage to HIV care. Discrepancies in access among key populations were noted, but overall, waiting times for ART initiation decreased during and after the pandemic, reflecting improved healthcare delivery. Regional disparities in access remain a concern.

HIV and ageing

THPEB021

Association between cognitive performance and subclinical atherosclerosis among older adults with HIV: a cross-sectional evaluation from ELEA-Brasil Study

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Background: In the general population, increased carotid intima-media thickness (cIMT) has been associated with poor cognitive performance (CP). People with HIV (PHIV) are at higher risk for both atherosclerosis and cognitive decline, yet data on the relationship between cIMT and CP in this population are limited. We investigated this association in older PHIV in Brazil using baseline data from ELEA Study.

Methods: PHIV aged ≥50 years on antiretroviral therapy were recruited from four Brazilian healthcare sites (2022–2023). Cognitive performance was evaluated using the Montreal Cognitive Assessment (MoCA). cIMT was measured via B-mode ultrasonography, with high cIMT defined as mean cIMT >0.9mm. Participants with clinical atherosclerosis (stroke, myocardial infarction, N=94) and missing cIMT data (N=16) were excluded. Sensitivity analysis categorized participants as high cIMT with either mean cIMT >0.9mm and/or carotid plaques detected. Demographic, clinical, and social variables were compared between high and low cIMT groups. We assessed the association of cIMT and MoCA using Spearman correlation and multivariable ordinal regression models.

Results: A total of 593 individuals were included. The median cIMT was 0.70 mm (IQR: 0.62–0.81), 83 (14%) were classified as having high cIMT. Carotid plaques were observed in 69 (83%) of participants with high cIMT and 278 (55%) of participants with low cIMT. Compared to those

with low cIMT, individuals with high cIMT were older (median age 66 vs. 61 years, p<0.001), more often males (75 vs. 61%, p=0.035), had lower CD4/CD8 ratio (0.77 vs. 0.96, p=0.003), and higher prevalence of hypertension (70 vs. 58%, p=0.048) and frailty (12.0% vs. 4.1%, p=0.019). Median MoCA scores were similar (23 vs. 23, p=0.3), as were education and income (p>0.05). A non-significant negative correlation was observed between MoCA and cIMT (r = -0.02, 95% CI: -0.10, 0.06).
In multivariable regression models, cIMT was not significantly associated with MoCA scores as a continuous (aOR 1.06, 95%CI: 0.98–1.15) or dichotomized variables including presence of plaques (high cIMT or plaque aOR 1.15, 95%CI: 0.87–1.54).
Conclusions: In older PHIV, cIMT was not significantly associated with cognitive function, suggesting that other comorbidities and factors may play a more prominent role in cognitive decline.

THPEB022

Shorter telomere lengths and faster telomere attrition rates are associated with unsuppressed viraemia and lower CD4 count in antiretroviral-treated adolescents with perinatally-acquired HIV from Zambia and Zimbabwe

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Background: Shorter telomere length (TL), a biomarker of immune aging, is observed among adults with HIV and predicts morbidity/mortality later in life. However, there are few studies in children growing up with HIV and existing data are largely cross-sectional. We investigated relationships between markers of HIV control/progression and longitudinal TL attrition rate among Zambian and Zimbabwean adolescents, hypothesising that higher viral load (VL) and a lower CD4 count are associated with faster telomere attrition.
Methods: Buffy coat was obtained from 842 adolescents with perinatally-acquired HIV (11-19 years) taking combination antiretroviral therapy (cART) for >6 months with 783 samples available at week 48 follow up, from the VITALITY clinical trial [PACTR202009897660297] of high dose vitamin D and calcium supplementation. DNA was extracted using Qiagen Blood Mini kits and TL was measured using monochrome multiplex qPCR, standardising units for analysis. Zimbabwean samples were assayed using an ELISA kit for cytomegalovirus IgG. Cross-sectional analysis was undertaken using multivariable linear regression adjusting for age, sex and site, whereas longitudinal analysis additionally adjusted for baseline TL.
Results: At baseline, 678(80.5%) participants had undetectable (<60 RNA copies/ml) viraemia, 66(7.8%) had 60-1000 copies/ml and 98(11.6%) had >1000 copies/ml. Participants had mean(95%CI) 584(122,1122) CD4 cells/µl.
Compared to undetectable VL, participants with >1000 copies/ml had shorter TL (standardised β[95%CI] -0.239[-0.451,-0.026], p=0.028) whereas those with 60-1000 copies/ml did not (p=0.836).
Higher CD4 cell count was associated with longer TL (0.038[0.009,0.066] per 100 CD4 cells/µl, p=0.009). Zambian participants had on average longer TL than Zimbabwean participants (0.182[0.042-0.321], p=0.011). Cytomegalovirus IgG was modestly associated with TL (β=0.0138, p=0.057).
Telomere attrition rate was accelerated in participants with >1000 copies/ml at both timepoints when compared with participants with <1000 copies/ml at both timepoints (-0.276[-0.546,-0.005], p=0.046). Higher baseline CD4 cell count was associated with a reduction in telomere attrition rate (0.033[0.008,0.057] per 100 CD4 cells/µl, p=0.001). No difference in week 48 TL was observed between study trial arms (p=0.689).
Conclusions: Uncontrolled HIV viraemia leads to a continual degradation in immune age among adolescents with HIV on cART in sub-Saharan Africa, which may correlate with an increased risk of co-infection and co-morbidities later in life.

Co-infections (including opportunistic infections)

THPEB023

Recent syphilis incidence for gay, bisexual and men who have sex with men (gbMSM) versus non-gbMSM at a community health centre in Victoria, British Columbia, Canada

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Background: Rates of syphilis, a sexually transmitted blood-born infection (STBBI), have surged over the last decade. This increase is driven by cases among gbMSM, individuals living with HIV (lwHIV) and females. The fifteen-fold increase of cases from 2017 to 2022 in females is over 90% with females of childbearing age, raising concerns about vertical transmission.

Cool Aid Community Health Centre in Victoria, BC serves 7,000 clients experiencing homelessness and mental health and substance use challenges. The weekly nurse-led STBBI clinic, Prism Wellness, partners with AVI Health and Community Services and is staffed by STI certified practice nurses and offers STBBI education, screening, treatment, pre-exposure prophylaxis (PrEP) and doxycycline post-exposure prophylaxis (doxyPEP). STBBI testing is also offered during regular client encounters.

Methods: A retrospective chart review was conducted to identify and include all clients tested for syphilis between January 1, 2021, to December 31, 2024. Client demographic variables included age, sex, gbMSM, lwHIV, and PrEP.

Results: 7828 syphilis tests were completed with 2994 unique individuals in the last 3 years (2725 non-reactive, 269 reactive). Of the 269 clients with reactive tests (mean age=46), 111 (41%) were determined to have an active case (149 previous, 9 false positive).

For those with current active cases, 106 (95%) were fully treated. Females, particularly those under 40, are disproportionately affected by recent syphilis diagnoses. While females account for 25% of all reactive syphilis tests, they represent 41% of current active cases.

	Previously Treated	False Positive	Current Infection	Current who completed treatment	Total
All Syphilis Reactive	149 (55%)	9 (3%)	111 (41%)	106 (95%)	269
Female	20 (30%)	1 (1.5%)	**46 (69%)**	**43 (93%)**	67
Men	127 (64%)	8 (4%)	63 (32%)	61 (97%)	198
Trans/non-binary	2 (50%)	0	2 (50%)	2 (100%)	4
Yes gbMSM men	**105 (78%)**	0	30 (22%)	**30 (100%)**	135
Non gbMSM men	14 (29%)	8 (17%)	**26 (54%)**	**24 (92%)**	48
HIV+ men	52 (76%)	2 (29%)	14 (21%)	14 (100%)	68
HIV+ women	2 (67%)	0	1 (33%)	1 (100%)	3

Conclusions: Evolving syphilis trends require new focused interventions as rates shift from gbMSM and plHIV to females.

THPEB024

The burden of tuberculosis and associated medico-obstetrical outcomes among pregnant women living with HIV in Africa: a systematic review and meta-analysis

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Background: Pregnant women living with HIV (PWLHIV) face severe immunocompetence, with tuberculosis (TB) contributing about 50% of mortality from HIV co-infections. Children born to these women face heightened risks of vertical TB transmission with potential adverse health outcomes.

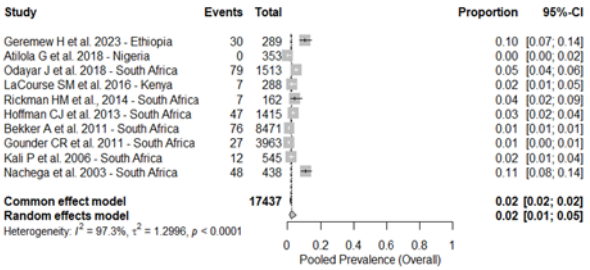
This review evaluates the prevalence, disease characteristics, and medico-obstetrical outcomes of TB among PWLHIV in the prevention of mother-to-child (PMTCT) programs in Africa.

Methods: A literature search across electronic databases such as PubMed, Scopus and Google Scholar included studies published between 2003 and 2023. The study protocol was registered with PROSPERO (CRD42025633892). Eligible studies examined tuberculosis's prevalence, characteristics, and outcomes among PWLHIV.

The review followed the PRISMA guideline, while quality assessment of included studies used the JBI Critical Appraisal Checklist for Prevalence Studies. The meta-analysis employed a random-effects model to determine prevalence and medico-obstetrical outcomes.

Results: From 12 reviewed studies, the pooled prevalence of TB among PWLHIV was 2% (95% CI: 0.02–0.05) from 17,611 participants (Fig. 1), with a mean age of 27±2.5SD. Pulmonary TB (76%, 95% CI: 0.71–0.81) was predominant, while extrapulmonary TB constituted 22% (95% CI: 0.18–0.27). Across studies, CD4 count <200 cells/mm3, poor ART adherence, and prior TB history were risk factors. Obstetric outcomes showed 93% live births and 5% stillbirths, with cohorts reporting 59% low birthweight and 65% preterm births.

Other medical outcomes included preeclampsia (6.5%), pregnancy-induced hypertension (5.3%), antepartum hemorrhage (1.3%), and prolonged rupture of membranes (7.5%). 78.7% was the highest recorded treatment success rate, with 8.5% relapse and 12.8% treatment failure. Funnel plot and Egger's test (p = 0.953) indicated no publication bias.



Conclusions: Tuberculosis-coinfection greatly influences birth outcomes and increases transmission risk to infants. With 1-in-20 deliveries being stillbirths, strengthening PMTCT programs in Africa is necessary to curb adverse obstetric outcomes. Multidisciplinary collaborations with TB partners can advance efforts toward ending TB for this population.

THPEB025

Effect of doxycycline post-exposure prophylaxis on sexually transmitted infections among men who have sex with men

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Background: Doxycycline post-exposure prophylaxis (doxy-PEP) has demonstrated effectiveness in preventing sexually transmitted infections (STIs) among men who have sex with men (MSM) in clinical trials. This study aimed to assess the feasibility and effectiveness of doxy-PEP in real-world settings.

Methods: A multicenter retrospective study was conducted from October 2023 to November 2024. Adult MSM who initiated doxy-PEP immediately after receiving information about it were included and followed up every 3 months. A questionnaire survey was conducted to assess adherence to and satisfaction with doxy-PEP. STI testing, including serologic testing for syphilis and multiplex real-time PCR testing for *Chlamydia trachomatis, Neisseria gonorrhoeae, and Mycoplasma genitalium*, was performed every 3 to 6 months.

Results: A total of 472 participants were prescribed doxy-PEP immediately after receiving counseling. Of them, 356 (75.4%) were people with HIV (PWH), and 116 (24.6%) were HIV pre-exposure prophylaxis (PrEP) users. The median age was 36 years, and 48.7% had a history of STIs within the past year. At 3, 6, 9, and 12 months, the proportions of participants who continued doxy-PEP were 40.1%, 38.6%, 38.4%, and 42.2%, respectively, while adherence rates of 76-100% were 59.0%, 59.5%, 66.3%, and 69.7%. The proportion of participants who inconsistently used condoms remained between 80% and 90% throughout the study period. The rates of syphilis infections at 3, 6, 9, and 12 months were 0.6%, 3.2%, 4.1%, and 0%, respectively, which were significant lower than the baseline syphilis incidence over the past year (31.6%).

Similarly, chlamydia infection rates at 3, 6, 9, and 12 months were 1.9%, 4.3%, 4.2%, and 0%, respectively, showing a notable reduction from the baseline incidence within a year (17.8%).

However, gonorrhea infection rates increased over time, reaching 9.6%, 15.7%, 25.9%, and 50.0% at 3, 6, 9, and 12 months, respectively, compared to the baseline gonorrhea incidence of 13.6%.

Conclusions: In real-world settings, doxy-PEP was prescribed with consistent continuation and adherence. After its implementation, syphilis and chlamydia infections decreased without affecting frequency of condom use. However, the rise in gonorrhea infections over time may indicate the limited effectiveness of doxy-PEP against gonorrhea.

THPEB026

HPV detection and genotypes in vaginal swabs and urine in a cohort of female sex workers from Nairobi, Kenya

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Background: Cervical cancer is one of the most common cancers in women, contributing to 90% of HPV related cancers. Self-sampling, including self-collected urine, has emerged as an important strategy to achieve the WHO's 90-70-90 HPV targets. Urine collection is thought to be an acceptable specimen for HPV-based cervical cancer screening and a promising approach to increase screening uptake, due to its non-invasive nature.

Methods: Ninety paired urine and cervical-vaginal swab (CVS) specimens were obtained from the Sex Worker Outreach Program (SWOP) in Nairobi, Kenya, where 13% of participants were people living with HIV. DNA was extracted from neat urine (n=70), CVS (n=90), and urine applied to in-house developed dried urine strips (DUS) (n=20). DUS were allowed to dry for 24 hours at room temperature before DNA extraction.

HPV genotyping of 46 mucosal types was done using a nested-PCR and microsphere-based in-house assay. Additionally, for 20 paired samples, quantification of HPV-16 was done using droplet-digital PCR (ddPCR).

Results: HPV was detected in 92.9% of CVS and 81.4% of all urine samples. Multiple HPV types were detected in 65.1% of CVS and 45.5% of all urine samples. Same HPV types in CVS were detected in 60.0% of all paired samples, with DUS in higher agreement (65.0%) than neat urine (58.0%). High-risk HPV types detected in CVS were detected in 68.4% of DUS and 63.2% of neat urine specimens.
Lastly, 37.1% of all urine samples detected more HPV types than their paired CVS sample, and 56.5% of those were high-risk HPVs. Quantification of HPV-16 using ddPCR showed no significant differences between CVS and neat urine (ρ=0.20).
Conclusions: Moderate concordance between CVS and urine specimens was observed, suggesting differences in HPV types detected through different sampling techniques. Of interest, the DUS, developed in-house for STI testing, performed well for HPV detection and genotyping and could be a useful strategy to improve HPV screening.

THPEB028

Cervical cancer screening and treatment outcomes in Women living with HIV: a cross-sectional study in Nasarawa State, Nigeria

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Background: Cervical cancer is the fourth most prevalent cancer among women globally, with significant morbidity and mortality in low- and middle-income countries. Women living with HIV (WLHIV) are six times more likely to develop cervical cancer compared to the general population, with HIV contributing to 5% of all cases.
This study aimed to determine the prevalence of precancerous lesions and severe dysplasia (precancerous lesion greater than 75%) among WLHIV in Nasarawa State, Nigeria, identify the most affected age group, and assess treatment outcomes.
Methods: This cross-sectional study focused on women living with HIV (WLHIV) and was conducted across four secondary healthcare facilities in three Local Government Areas (LGAs) of Nasarawa State, Nigeria, from October 2023 to September 2024. The research aimed to determine the prevalence of precancerous lesions and severe dysplasia, identify the most affected age group, and assess treatment outcomes. Data was extracted from cervical cancer screening registers for WLHIV. Descriptive statistics were used to calculate prevalence rates and evaluate treatment outcomes.
Results: Among the 2,750 WLHIV screened, 111 (4.03%) had precancerous lesions, and 9 (0.32%) presented with severe dysplasia. The majority (73%) of precancerous lesions were observed in younger women aged 25–39 years.
All women with precancerous lesions treated with thermal ablation and those with severe dysplasia managed with LEEP at tertiary facilities achieved lesion clearance upon re-screening.
Statistical analysis confirmed a significant association between age and the prevalence of precancerous lesions ($p < 0.05$). These findings underscore the effectiveness of targeted screening and treatment interventions in this population.
Conclusions: This study highlights the high prevalence of precancerous lesions (4.03%) and severe dysplasia (0.32%) among WLHIV in Nasarawa State, with younger women (25-39 years) most affected. Effective interventions like thermal ablation and LEEP achieved 100% lesion clearance.
These findings underscore the need for targeted screening and treatment programs. Future research should explore the long-term outcomes and scalability of these interventions in diverse settings.

THPEB029

Scaling up advanced HIV disease screening, diagnosis and management in 2023: implementation of the Hub-and-Spoke model in Lusaka province, Zambia

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Background: Advanced HIV Disease (AHD) services were not available at all healthcare levels in Zambia, presenting a significant challenge. In 2023, we implemented a WHO-recommended service package for managing AHD in Lusaka Province.
Description: A WHO-recommended hub-and-spoke model for AHD care was implemented across 193 health facilities, with 11 referral "hubs" (hospitals) managing complex cases, and 182 "spokes" providing screening and routine care for stable AHD patients. A provincial AHD team -clinical, pharmacy, lab, and Monitoring and Evaluation (M&E) staff- supported capacity-building at these sites. The model included staff training, mentorship, supervision, commodity management, and M&E tool development, with systematic screening for AHD and further TB and Cryptococcal infection among those with AHD.
Weekly data reviews informed quality improvement. Patients had AHD if CD4 <200 cells/ul or WHO stage was 3/4 among those newly diagnosed, returning to care, with unsuppressed viral load and inpatients. Data came from DHIS2, an electronic medical record tool for collection, analysis and presentation of patient data.
Lessons learned: From October 2023—September 2024, 13,506/ 27,568 patients (49%) were screened, with AHD identified in 5,287 (39%) based on CD4<200 cells/ul (4,523) or WHO stage 3/4 (764). Monthly trends showed 27% improvement in AHD screening from 42% of eligible patients in October 2023 to 69% in September 2024. Of those with AHD, 1,293 (24.5%) were investigated for TB with 301 (23.3%)

TB diagnoses, and of the 896 (17%) patients with AHD screened for cryptococcal infection, 58 (6.5%) had positive serum cryptococcal antigen and 15 (1.7%) had confirmed cryptococcal meningitis.

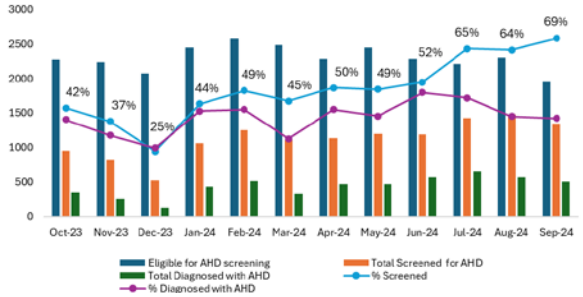


Figure 1: AHD screening and diagnosis monthly trends from October 2023 to September 2024, Lusaka Province, Zambia.

Conclusions/Next steps: Hub and spoke model implementation in 2023 increased the AHD screening rate over time, however, diagnoses remained largely unchanged. Scaling up TB and cryptococcal infection screening is crucial in averting morbidity and mortality from these conditions.

Co-morbidities and clinical complications of HIV and antiretroviral therapy

THPEB030

Profiles of body weight, glucose, and uric acid in PWH on ainuovirine-based antiretroviral regimen: week 96 results from SPRINT, a randomized phase 3 trial

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Background: In the SPRINT study, switch to ainuovirine, a novel non-nucleoside reverse transcriptase inhibitor, combined with lamivudine and tenofovir DF (ANV/3TC/TDF), resulted in favorable changes in body weight (BW) and serum uric acid (SUA), but constant fasting serum glucose (FSG), compared to that to cobicistat-boosted elvitegravir with emtricitabine and tenofovir alafenamide (E/C/F/TAF), in virologically suppressed (VS) people with HIV-1 (PWH). In the extensional study, PWH continued or switched to ANV/3TC/TDF until 96 weeks.

This secondary analysis aimed to evaluate the changes in BW, FSG, and SUA of PWH switching to ANV/3TC/TDF through 48 to 96 weeks.

Methods: Out of 762 randomized participants, 376 participants originally assigned to ANV/3TC/TDF (376/381, 98.7%) and 371 participants originally to E/C/F/TAF (371/381, 97.4%) completed the extensional study, respectively. The safety outcomes of special interest were absolute changes from 48 in BW, FSG, and SUA at 72 and 96 wk.

Results: Modest decline in BW was seen in both treatment arms at 72 wk (mean, ANV/3TC/TDF vs. E/C/F/TAF→ANV/3TC/TDF, -0.47 vs. -1.14 kg), to a lesser extent at 96 wk (-0.03 vs. -0.59 kg) at 96 wk (Figure 1, upper panel). FSG remained constant in both arms from 48 wk through 96 wk (72 wk, 0.7 vs. -0.10 mmol/L; 96 wk, 0.04 vs. 0.00 mmol/L).

Compared to that in ANV/3TC/TDF arm, SUA showed a marked and constant reduction in E/C/F/TAF→ANV/3TC/TDF arm at both 72 wk (24.4 vs. -17.8 μmol/L), and 96 wk (-2.9 vs. -37.6 μmol/L) (Figure 1, lower panel).

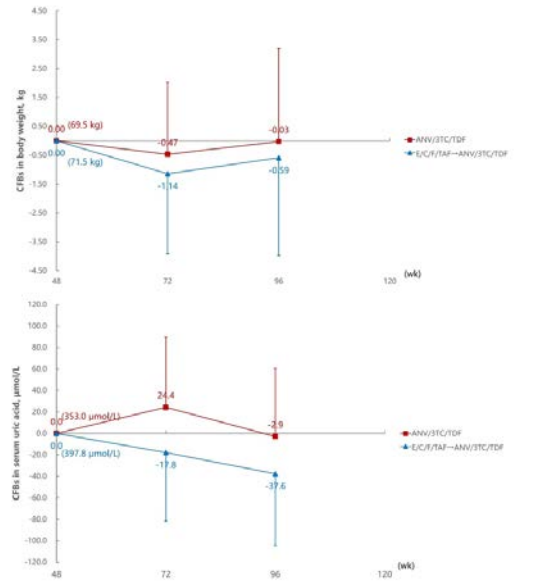


Figure 1. Changes in body weight and serum uric acid Levels at week 72 and 96
ANV/3TC/TDF, ainuovirine/lamivudine/ tenofovir disoproxil fumarate; E/C/F/TAF, elvitegravir/cobicistat/emtricitabine/tenofovir alafenamide; CFB, change from baseline; BW, body weight; SUA, serum uric acid.

Conclusions: Continuation of ANV/3TC/TDF treatment resulted in constant profiles of BW, FSG and SUA for VS PWH. However, switch from E/C/F/TAF favored profiles of BW and SUA in the SPRINT extensional period in contrast to that to E/C/F/TAF in the randomized study.

THPEB031

Oral microbiota signatures in relation to neurocognitive function in adolescents with perinatally acquired HIV

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Background: Adolescents with perinatally acquired HIV (ALHIV) on antiretroviral therapy face an elevated risk for age-related disorders, including neurocognitive deficits and oral disease. While the gut microbiota has been implicated in cognitive dysfunction, the relationship between the oral microbiome and neurocognitive health in ALHIV is poorly understood.

This study investigates associations between oral microbiota composition and cognitive function in ALHIV.

Methods: Baseline data from an observational cohort, uBLOoM (Uncovering the Biologic Link between Oral Microbiota and Mental health in Adolescents Living with HIV) study, conducted at the University of Benin Teaching Hospital, Nigeria, were analyzed. Fifty-three ALHIV and 47 age-, sex-, and socioeconomically matched seronegative youth (HUU), aged 10 - 13 were enrolled. Cognitive function was assessed using the NIH Toolbox Cognition Battery, and composite scores were categorized as *Low* if below average (<85) or *Normal* if average or above average (85–115). Microbiota of oral rinse samples were profiled using shotgun metagenomics, characterization focusing on alpha (Shannon indices) and beta diversity (Bray-Curtis; PERMANOVA), and the identification of differentially abundant taxa (MaAsLin2).

Results: Distinct microbial patterns were observed when stratified by cognitive performance categories within ALHIV and HUU groups. Among ALHIV, Shannon diversity scores were lower in the *Low* cognitive category ($p = 0.07$). No differences were observed with Bray-Curtis distances. Specific taxa, including *Thauera*, *Candidatus Mycosynbacter*, and *Propionivibrio*, were significantly depleted in ALHIV with low cognitive scores ($p < 0.001$; $q < 0.25$). These taxa play neuroprotective roles related to nitrate metabolism and the production of short-chain fatty acids, which contribute to gut-brain axis regulation and blood-brain barrier integrity.

In contrast, adolescents in the HUU group exhibited no significant associations between alpha and beta diversity, or specific taxa and cognitive categories ($p > 0.05$).

Conclusions: This study provides novel evidence of a potential link between oral microbiota and neurocognitive health in ALHIV, with neuroprotective taxa being depleted in those with lower cognitive scores. These findings suggest a unique interplay in ALHIV distinct from HUU.

Future research should explore mechanistic pathways and validate these findings in larger cohorts and across various cognitive assessment tools, to inform targeted interventions to improve cognitive outcomes in ALHIV.

THPEB032

Identifying the most effective screening algorithm for anal high-grade squamous intraepithelial lesion among men who have sex with men in Bangkok, Thailand

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Background: Men who have with men (MSM), especially those living with HIV, are at heightened risk of anal high-grade squamous intraepithelial lesions (HSIL), a precursor to anal cancer. High-resolution anoscopy (HRA) with biopsy is the standard for diagnosing anal HSIL. This study evaluated screening algorithms alternative to HRA.

Methods: Thai MSM were enrolled at the Thai Red Cross AIDS Research Centre in Bangkok, Thailand, and followed for 12 months. At each visit, self-reported demographic data and HIV status from medical records were collected. Anal cytology, high-risk human papillomavirus (HRHPV) testing, and HRA with biopsies of abnormal findings were performed.

Using baseline data, we simulated screening algorithms: cytology alone, HRHPV alone, combined HRHPV and cytology, and universal HRA. Positive results in non-HRA algorithms led to HRA. We compared HSIL detection rates between algorithms using odds ratios (ORs) with 95% confidence intervals (CIs).

Results: A total of 246 MSM (123 living with HIV, 13.0% on antiretroviral therapy; 123 without HIV) with a median age of 28 years were enrolled between December 2009 and 2010. Anal HSIL prevalence was 11.5% among participants with HIV and 5.7% among those without HIV (P = 0.110). Strategies incorporating HRHPV testing detected HSIL at rates comparable to universal HRA (HRHPV alone: OR 0.60, 95% CI 0.27-1.29; Cytology+HRHPV: OR 0.82, 95% CI 0.39-1.67). In contrast, cytology alone detected fewer HSIL than universal HRA (OR 0.28, 95% CI 0.09-0.73). Adding HRHPV to cytology screening improved HSIL detection (OR 2.96, 95% CI 1.09-9.33).

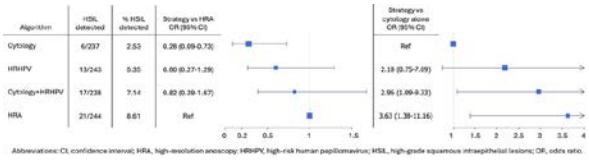


Figure. Anal HSIL detection rates of different screening strategies compared to cytology-alone and universal HRA strategies.

Conclusions: Screening for anal HSIL using HRHPV alone or combined with cytology, followed by HRA for positive results, produced detection rates comparable to universal HRA. Cytology alone identified 70% fewer HSIL cases. HRHPV testing shows potential as an effective screening tool for anal HSIL in this population, potentially reducing the need for universal HRA, which requires specialized equipment and experienced practitioners.

THPEB033

The impact of immune reconstitution inflammatory syndrome (IRIS) in HIV-positive people with CD4 <200 Cells/mm³ Initiating dolutegravir/lamivudine dual therapy: DOLCE study findings

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Background: Immune Reconstitution Inflammatory Syndrome (IRIS) is a potential complication of antiretroviral therapy(ART), affecting up to one-third of people living with HIV(PLWH). Key risk factors include male gender, younger age, low CD4 count (<100 cells/mL), rapid CD4 recovery, swift suppression of HIV RNA, and pre-existing latent infections. However, there is limited data on IRIS in dual therapy.This study aims to report the incidence of IRIS.

Methods: The DOLCE study,a randomized trial in Argentina and Brazil, reported similar virologic suppression rates between dual therapy (DT) with Dolutegravir/Lamivudine and triple therapy (TT) with Dolutegravir, tenofovir disoproxil fumarate, and lamivudine or emtricitabine in PLWH with CD4 counts below 200 cells/mL.Participants were monitored for IRIS development over 48 weeks,diagnosed using clinical criteria (French Criteria, 2004) excluding other causes of symptoms. Baseline data, including CD4 counts, HIV RNA viral load, and prior opportunistic diseases, were collected to identify risk factors

Results: Among the 229 dosed participants,15 IRIS events were reported (overall incidence 7% over 48 weeks. In DT, the incidence was 5.9% (9/152), and in TT,7.8% (6/77) (p=0.6). Median time to IRIS presentation was 80 days in DT arm (IQR26-321);70 days in TT arm (IQR16-122),with no significant difference (p=0.5).Median baseline CD4 count was 116 cells/mL(IQR: 53.3-188), rising to 249 cells/mL (IQR: 159-308) at IRIS presentation similar in both arms:DT CD4 count:207 cells/mL(IQR: 141-304), and the TT;264 cells/mL (IQR: 199-305) (p=0.7). Most IRIS events were lymphoma and cerebral toxoplasmosis (Table 1).

Ten events (66.6%) were serious adverse events (SAEs), and five were treated with corticosteroids (33%). Two IRIS events were fatal.

IRIS Diagnosis	ART	Baseline CD4 cells count	Baseline HIV VL (copies/ml)	Time to IRIS onset from BSL (Days)	VL at the onset IRIS (copies/ml)	CD4 cells count at onset IRIS
Tuberculosis meningoencephalitis	DT	141	586.460	23	586460	141
Burkitt's lymphoma (non-Hodgkin's lymphoma)	DT	222	201.210	321	65	680
Bilateral herpetic retinitis	TT:	138	147.673	284	39	279
Possible lymphoma	DT:	328	47.306	324	39	176
Bilateral Pneumonia	TT	16	1.363.421	5	109	505
Disseminated TB with meningeal involvement	DT	145	66.454	26	39	123
Cytomegalovirus chorioretinitis and vitritis	DT:	31	222.923	80	32	250
Probable pulmonary tuberculosis	TT	234	1.075.000	126	39	313
Neurotoxoplasmosis	TT	102	40.594	108	37	78
Cryptosporidiosis	DT	102	826	9	349	207
Reactive arthritis	TT	8	278.494	11	39	249
Neurotoxoplasmosis	TT	17	136.963	32	39	182
Herpes zoster	DT	108	113.548	223	23	312
Hepatitis C flare (Hepatotoxicity)	DT	177	81.139	3675	96	304
IRIS: Immune Reconstitution Inflammatory Syndrome ;DT: DTG+3TC; TT: DTG+TDF/XTC; ART: antiretroviral therapy;BSL:baseline;TB:tuberculosis						

Table. IRIS list.

Conclusions: The IRIS incidence in this study is within the expected range, reflecting the typical early presentation in PLHIV with low CD4 counts starting ART. No significant differences were observed between the DT and TT regimens.

These results highlight the importance of early IRIS monitoring, particularly in individuals with low baseline CD4 counts and pre-existing opportunistic diseases

Antiretroviral therapies and clinical issues in adults

THPEB034

Assessing the effect of co-administration of Rifapentine with Dolutegravir on viral load suppression among recipients of care on tuberculosis preventive therapy in Delta, Ekiti and Osun States

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Background: Short-course once-weekly isoniazid-rifapentine (3HP) for three months is an effective regimen for latent Tuberculosis treatment among HIV Recipients of Care (ROC). Some studies have demonstrated that rifapentine reduces the plasma concentrations of Dolute-

gravir (DTG) through hepatic enzyme inductions possibly leading to treatment failure in the absence of dosage adjustment. The objective of the study was to assess viral load suppression rates among clients who were co-prescribed DTG and 3HP in selected facilities in Delta, Ekiti and Osun states.

Methods: The introduction of Isoniazid/Rifapentine (3HP) as an alternative Tuberculosis Preventive Therapy (TPT) regimen commenced May 2023 across 21 selected facilities in Delta, Ekiti and Osun states. Dolutegravir (DTG) forms part of the adult first line regimens in combination with Tenofovir/Lamivudine as TLD or Abacavir/Lamivudine as ALD. New clients were screened for eligibility.

There was no dosage adjustment when co-administered. The clients were followed up and provided adherence counselling. Treatment outcomes were documented in Facility TPT Cohort registers.

New clients had viral load collected after 6 months on treatment. Demographic data and viral load results were abstracted from the register and the National Medical Record System. Data were analyzed and summarized using frequencies in SPSS version 26.

Results: Medical records of 1258 ROC who started 3HP within the period (Male = 47%, Female = 53%) with median age of 36 (IQR=29-45) were reviewed out of which 63 were excluded for incomplete documentation. A total of 1195 clients had valid viral load results with 97.3% suppression rate (Male = 98.2%; Female = 96%)

Conclusions: Co-administration of 3-HP with Dolutegravir-based regimens did not have negative impact on viral load suppression rates in the absence of Dolutegravir dosage adjustment.

THPEB035

Integrating client-focused pharmacovigilance to prevent and manage commonly occurring Adverse Drug Reactions (ADRs) in HIV treatment in Zambia: a quality improvement initiative within the DSD-plus program

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Background: Adverse drug reactions (ADRs) to antiretroviral therapy (ART) impact client adherence and treatment outcomes, potentially leading to treatment discontinuation and failure. Zambia's pharmacovigilance system encourages ADRs reporting to the Zambia Medicines Regulatory Authority (ZAMRA) but lacks a platform for clinician's review and management. To address these issues, Howard University, through the Differentiated Service Delivery-plus (DSD-plus) program, partnered with Ministry of Health (MoH) in select healthcare facilities to integrate client-centered pharmacovigilance into routine HIV care and improve the identification, management, and reporting of ADRs, thereby enhancing client care and adherence to ART.

Methods: The program was implemented in 30 high volume facilities across three provinces, providing ART to approximately 131,200 clients. Over 450 healthcare providers were trained in ADRs identification, reporting to ZAMRA, and clinical management. A multidisciplinary pharmacovigilance committee incorporating clinicians, pharmacists, nurses, laboratory personnel, and community health workers were established in each facility. These committees reviewed the reported ADRs, determined causality and management strategies, and referred complicated cases to specialists. All ADRs cases were reported to ZAMRA through established channels.

Results: Between 2019 and 2024, 21,090 Adverse Drug Reaction (ADR) cases were identified and reported in DSD-plus supported facilities, accounting for >90% of all cases reported to ZAMRA.

The ADR management outcomes were as follows:

- 60% (12,652) of ADRs were mild
- 39.5% (8,331) were moderate
- 0.5% (669) were severe
- 97% of clients managed within DSD-plus clinics recovered
- 3% required referral to specialized care

Treatment outcomes:

- Continuity in care increased from 65% to 98%
- Viral suppression rate increased from 78% to 99%

Notably, <0.5% of clients missed doses due to ADRs and enhanced documentation of hypersensitivity reactions in client files significantly prevented ADRs.

Conclusions: This approach demonstrates the effectiveness of the DSD-plus Pharmacovigilance client-focused program in identifying, managing, and preventing ADRs, ultimately improving treatment outcomes for people living with HIV in Zambia.

This project was funded by the Health Resources and Services Administration (HRSA) under the U.S. President's Emergency Plan for AIDS Relief, as part of the Historically Black Colleges and Universities (HBCU) Global Health Consortium (GHC) Initiative.

THPEB036

Perspectives of people living with HIV (PWH) 24 months following a switch to cabotegravir and rilpivirine long-acting (CAB+RPV LA) in an observational real-world US study (BEYOND)

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Background: CAB+RPV LA is the only complete long-acting regimen administered by a healthcare provider for treatment of virologically suppressed PWH. CAB+RPV LA may alleviate challenges associated with daily oral antiretroviral therapy (ART).

This study reports perspectives of PWH receiving CAB+RPV LA in real-world US healthcare settings.

Methods: This 2-year prospective observational study enrolled PWH following the decision to switch to CAB+RPV LA (monthly or every 2 months) across 27 US sites.
Participants completed surveys (at baseline [BL] before first injection and Months 6, 12 and 24 [M24]) identifying reasons for initiating CAB+RPV LA, challenges with oral ART, ART preference, HIV treatment satisfaction (HIV-TSQs, score range 0-66), and benefits of more frequent clinic visits.
Results: 308 PWH were enrolled and completed BL surveys. Median age 45 years, 83% identified as male, 39% as Black. The most common primary reasons CAB+RPV LA was initiated were pill fatigue (27% of participants), more convenient treatment option (21%), and pill adherence anxiety (17%). At BL, 49% of participants reported sometimes, often, or always hiding their prior oral ART for fear of disclosing HIV status. 195 PWH completed surveys at M24.
The proportion of PWH receiving CAB+RPV LA reporting fear of disclosure, anxiety around adherence, daily reminder of HIV, and feeling stigmatized by HIV treatment decreased from BL to M24 (Figure). At M24, most participants preferred CAB+RPV LA (95%; N=194).
Treatment satisfaction increased from BL to M24 (+6.3, p<0.0001; N=190). At M24, most participants (94%; N=188) reported ≥1 additional benefit of more frequent clinic visits (e.g., feel HIV is better controlled, more opportunities to discuss HIV treatment and/or other issues).
Conclusions: 24 months following a switch to CAB+RPV LA, PWH reported improvements in the challenges with prior oral therapy, reported a strong preference for CAB+RPV LA, had increased treatment satisfaction, and more opportunities to engage with their HIV care.

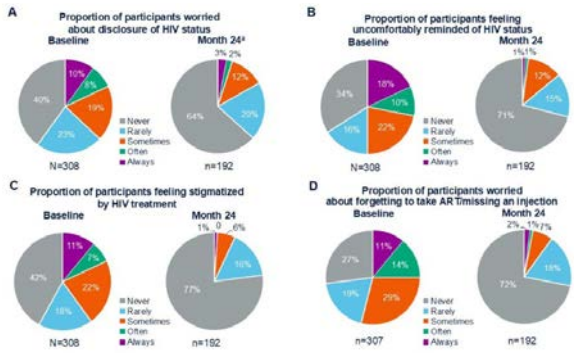


Figure. Proportion of participants (A) worried about disclosure of their HIV status, (B) Feeling reminded of their HIV status because of their treatment, (C) Feeling stigmatized by HIV treatment, and (D) Worried about forgetting to take ART/missing an injection at BL and M24.
**Month 24 proportions add up to 101% due to rounding.*
BL, baseline; M24, month 24.

THPEB037

Acceptability of long-acting injectable antiretroviral therapy among persons living with human immune-deficiency virus at the Korle Bu Teaching Hospital, Accra, Ghana

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Background: A strategic approach to enhancing adherence to antiretroviral therapy (ART) is the development of long-acting injectable ART (LAI-ART). Client acceptability is however a key determinant to the success of these novel therapies, but data is lacking in Africa and Ghana.
This study assessed the knowledge of and willingness to accept LAI-ART among people living with HIV (PLHIV) attending the HIV clinic of the Korle-Bu teaching hospital.
Methods: A cross-sectional study with a quantitative approach was conducted over a four month period in 2024 among adult PLHIV on ART for at least 6-months and attending the HIV clinic of the Korle-Bu teaching hospital. Participants were recruited using a simple random sampling and data was collected via a self-administered questionnaire. Participants were initially asked about their knowledge on LAI after which education on LAI was provided and participants reassessed.
Descriptive statistics was used to summarize the demographic and clinical characteristics. Inferential analysis was performed with Fisher's exact or Chi square test and logistic regression.
Results: Three hundred and nine (309) PLHIV participated in the study. Most (71.5%) of participants were female and 46% were above 50 years. Majority (78.9%) of them were on a single-pill regimen and 80.2% were adherent on ART. 70% of participants had no prior knowledge about LAI-ART. Of those who had prior knowledge about LAI-ART (30.1%), 65.6% got the information from the hospital.
After education, 89.6% showed a preference for LAI-ART, with a preferred frequency of injections being every 6 months (67.3%). About 79% preferred a trained nurse to administer LAI-ART. However, 41% preferred self- administration of LAI-ART if trained to do so.
Thirty-two percent had fears of side effects about LAI-ART even after education, and about 72% of PLHIV were willing to pay for LAI-ART. Participants who take more than one pill a day had eight times the odds of accepting LAI-ART compared to those taking one pill a day (aOR: 8.2 95%CI: 1.1-8.4).
Conclusions: Inadequate knowledge about LAI among PLHIV was high. Education of PLHIV on LAI-ART increased their preference and need for LAI-ART.

THPEB038

Satisfaction, preference, and health-related quality of life changes using HIV-specific patient-reported outcome measures with a novel, twice-yearly administered HIV-1 treatment regimen

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Background: The combination of lenacapavir (LEN), an approved HIV-1 capsid inhibitor, and two investigational broadly neutralizing antibodies (bNAbs), teropavimab (TAB) and zinlirvimab (ZAB), administered every 6 months (Q6M), is being evaluated in a Phase 2 open-label study (NCT05729568); we describe Week 26 (W26) patient-reported outcomes.
Methods: Virologically suppressed (HIV-1 RNA <50 copies/mL) adults with HIV-1 highly susceptible to both bNAbs receiving oral antiretroviral therapy (ART) for ≥12 months were enrolled (N=83) and randomized 2:1 to subcutaneous LEN 927 mg (with LEN oral loading) plus intravenous TAB 2550 mg and ZAB 2550 mg Q6M, or to continue baseline oral ART.
Assessments included: HIV Treatment Satisfaction Questionnaire – Status (HIVTSQ status) and – Change (HIVTSQ change), HIV Treatment Preference Questionnaire (HIVTPQ), and HIV Dependent Quality of Life (HIVDQoL) questionnaire. Analyses were conducted for participants receiving LEN, TAB, and ZAB using descriptive statistics and complete-case analysis for longitudinal comparisons.

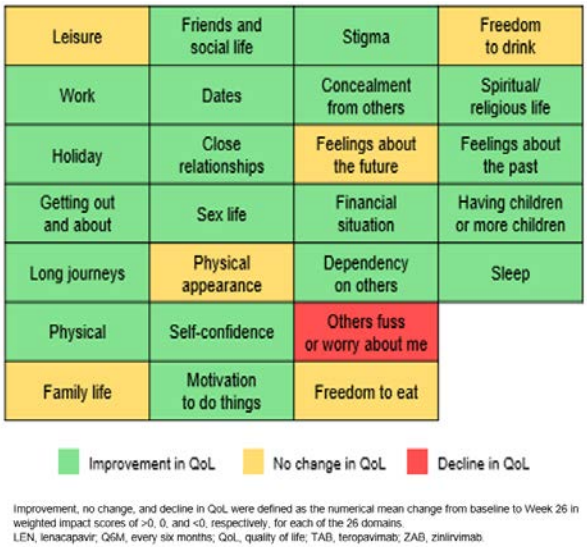


Figure. Change from baseline to week 26 in the HIV dependent quality of life questionnaire individual domain measurements for participants receiving LEN, TAB and ZAB Q6M.

Results: Participants receiving LEN, TAB and ZAB (n=53) had a mean (SD) age of 44 (13.7) years; 85% were male, 91% from the US, and 53% White. Mean (SD) HIVTSQstatus score increased from 58 (7.7) at baseline to 61 (7.3) at W26. W26 HIVTSQchange mean (SD) score was 25 (10.6), indicating improved satisfaction over baseline oral ART. At W26, 41/49 (83.7%) participants reported a preference for LEN, TAB, and ZAB on the HIVTPQ (strong, n=32; moderate, n=9), with 43/49 (87.8%) indicating it would be easier to adhere to LEN, TAB, and ZAB Q6M versus daily oral ART. HIVDQoL scores increased from baseline to W26 *(Figure)*; at baseline and W26, respectively, 42/45 (93.3%) and 44/45 (97.8%) participants reported positive (good–excellent) quality of life (QoL), with 11/45 (24.4%) and 17/45 (37.8%) reporting excellent QoL.
Conclusions: Participants switching to LEN, TAB, and ZAB Q6M reported improved treatment satisfaction and QoL by W26, with a moderate-to-strong preference for LEN, TAB, and ZAB over oral ART.

Antiretroviral therapies and clinical issues in adolescents and young adults

THPEB039

Mental health challenges and substance use associated with poor viral suppression and transition readiness among adolescents with HIV transitioning to adult care

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Background: Adolescents with perinatally-acquired HIV (APHIV) often engage in substance use and experience mental health issues contributing to lower retention in care and viral suppression after transitioning to adult care.
Methods: We are conducting a type 1, hybrid implementation-effectiveness, stepped-wedge, cluster-randomized trial to assess the effectiveness of in-person and mHealth based delivery of an adolescent-friendly transition intervention (InTSHA-VIP) on viral suppression among APHIV aged 15-19 years in 16 clinics in urban and rural KwaZulu-Natal, South Africa.
At baseline, we evaluated depression (PHQ-9), self-esteem (Rosenberg scale), stigma (Internalized AIDS Stigma Scale), and social support (Child and Adolescent Social Support Scale). We assessed factors associated with baseline viral suppression (viral load <200 copies/ml) and transition readiness (HIV Adolescent Readiness for Transition Scale [HARTS]) using generalised estimating equa-

tions and generalised linear mixed models respectively, adjusting for age, sex, schooling, geographic location and factors with p-values less 0.2 on bivariable analysis.

Results: We enrolled 380 APHIV. At baseline, 279 (84.3%) had viral suppression and 44 (11.6%) had high transition readiness. Overall, 136 (41.2%) reported feeling depressed or sad most days of the year, 48 (14.3%) met criteria for depression, 156 (41.7%) reported using alcohol in the past 30 days, and 43 (11.3%) reported marijuana or drug use in the past 30 days. After adjustment, marijuana use and depression were both associated with reduced odds of viral suppression (adjusted odds ratio (aOR)=0.38; 95%CI=0.16,0.91; p=0.03 and aOR=0.51; 95%CI=0.27,0.96; p=0.04, respectively).

In the unadjusted analysis, higher self-esteem scores were associated with lower transition readiness (mean difference −0.02; 95%CI= −0.02,−0.01; p=0.002), and higher PHQ-9 scores were associated with higher transition readiness, although that difference was not significant (mean difference 0.03; 95%CI=−0.05,0.11; p=0.452). After adjustment, we found no evidence of association between self-esteem scores or PHQ-9 scores and transition readiness.

Conclusions: Mental health and substance use play a critical role in viral suppression for APHIV in South Africa. Studies of interventions such as InTSHA VIP addressing these issues are needed to improve viral suppression and transition readiness.

THPEB040

Treatment outcomes among children and adults who commenced third line antiretroviral therapy at Newlands Clinic in Zimbabwe in 2024: a review of clinic records

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Background: Newlands Clinic (NC) introduced the third-line ART in 2015 and has Zimbabwe's biggest third-line cohort. Zimbabwe ART guidelines lack individualized care options after third-line ART failure.

Methods: This was a records review of individuals initiated on third-line ART at NC by December 2024. We abstracted demographic and clinical data including third-line initiation dates, CD4 counts and age at third-line commencement, and the latest viral load results. We reported treatment outcomes, including the association between sex, age-group, and baseline CD4 count with viral suppression among those still in care using logistic regression.

Results: A total of 390 individuals commenced third-line ART at NC (50% female). The median baseline age and CD4 count was 39 years (IQR 23-48) and 134 cells/mm^3 (IQR 36-277), respectively. The median third-line ART duration was 3.8 years (IQR 1.9-6.4). At analysis, 296 (75.9%) were still in care, 50 (12.8%) had died, 35 (9.0%) had transferred out, and 9 (2.3%) were lost to follow-up. The crude mortality rate was 2.56/100 person-years with 20 (47.6%) deaths occurring within the first year after commencement (Figure, Left). Among those in care, 242 (81.8%) had undetectable viral loads (<50 copies/ml) while 20 (6.8%) had viral loads >1000 copies/ml. Compared to adults aged ≥25 years with an HIV viral suppression rate of 96%, children and young people (CYP) had lower suppression rates of 86% (Figure, Right). Adults were twice as likely to be suppressed (aOR 2.16, 95%CI 1.12 – 4.14, p=0.021) than CYP.

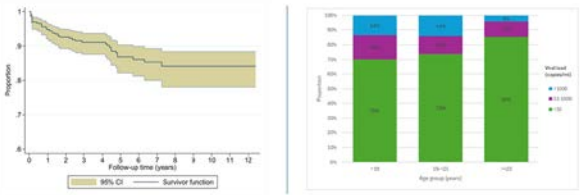


Figure: VL and mortality rates among 3rd line ART clients.

Conclusions: We report a high burden of advanced HIV disease among individuals commencing third-line ART which may explain the high mortality rates. HIV treatment programs should improve monitoring to ensure early diagnosis of second-line ART failure, especially among CYP. Individualized ART regimens are needed for patients failing third-line ART.

Antiretroviral therapies and clinical issues in neonates, infants and children

THPEB041

Virologic control near delivery and ART-adherence in a cohort of naïve and experienced pregnant people living with HIV in a PMTCT center

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Background: Pregnant people living with HIV (PLWH) face barriers to achieving virologic suppression near delivery. At the individual level, factors that might influence virologic suppression include antiretroviral adherence and the history exposure to ART prior to pregnancy, if any. Few studies have focused on the role of ART-experience on virologic suppression during pregnancy in the era of universal combined antiretroviral regimens.

The objective of this study was to assess virologic control and ART adherence profile including naïve and experienced pregnant PLWH at a PMTCT unit.

Methods: The primary endpoint was undetectable HIV VL (<40cp/mL) near delivery. Three regimens were used: INSTI-based, NNRTI-based, and PI-based. VL was performed at entry, quarterly, and near delivery. The groups were defined: ART-naïve (Group1), experienced who conceived in continuous use of ART (Group2) or who restarted ART during pregnancy (Group3). Genotype tests were performed for PLWH with VL > 500 cp/mL at entry.

Adherence during prenatal care at the center was defined as the percentage of days during which participants had

picked up their ART regimens in pharmacy records. Below 90% was suboptimal. Obstetric/neonatal outcomes were reported.

Results: 350 pregnant PLWH received antenatal care from 2019-2023. Median HIV VL at entry was Group1: 3.0 log10 copies, Group2: 0.0 log10 copies, and Group3: 3.5 log10 copies. The proportion who achieved virologic suppression near delivery was 89%. Virological control near delivery was Group1 122/131 (93%), Group2 155/162 (96%), and Group3 34/57 (60%). 115 had genotypic testing and resistance rates were: NRTI 10%, NNRTI 24%, PI 4%, and INSTI 0%. More than 90% of pickups were in Group1: 60.3%; Group2: 45.7%; Group3: 26.3%, respectively. There were no cases of vertical transmission. Two stillbirths occurred.

Conclusions: Most participants achieved virologic control near delivery. The group with the highest rate of ART pickups of more than 90% was ART-naïves, followed by those who conceived in use, and those who were ART experienced and restarted ART during pregnancy. Despite good overall rates of virological control achieved near delivery, there are still challenges to maintaining optimal adherence and controlling HIV VL during pregnancy in ART-experienced pregnant PLWH who restarted ART during pregnancy.

Clinical issues specific to key populations

THPEB042

TGD scorecard: addressing trans erasure in HIV clinical trials

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Background: Transgender and gender-diverse (TGD) people remain woefully underrepresented in HIV research. TGD communities are frequently overlooked in study design, eligibility criteria, data collection, and data reporting, resulting in their exclusion and erasure from research and limiting urgently needed opportunities to benefit from clinical advancements. To address these problematic research norms, we offer a structured framework (The TGD Scorecard) for guiding and evaluating TGD inclusion in HIV clinical trials with actionable criteria for trial design and conduct. The Scorecard was subsequently used to quantify and characterize TGD inclusion in pivotal HIV studies since the start of HIV research as supporting evidence of the need for this framework.

Methods: With input from global TGD communities, we devised a tool (Scorecard) consisting of 14 scoreable indicators to measure responsivity of HIV clinical trials to the lived realities and HIV-related needs of TGD communities. We tested the Scorecard in a retrospective, cross-sectional review of 41 randomized controlled trials. Studies were selected to represent the spectrum of groundbreaking HIV therapeutic and prevention studies enrolling participants from 1991–2023. https://avac.org/resource/no-data-no-more-scorecard-tool/

Results: Most studies did not collect or report demographic data such that participants could be identified as cisgender, transgender, and/or gender-diverse. Only 2,532 (1.4%) out of the total 178,893 participants in this analysis could be identified as TGD. Within this group, the largest proportion was made up of 2,042 (80.6%) transgender women (TGW), followed by 398 (15.7%) gender nonbinary individuals (GNB) and 92 (3.6%) transgender men (TGM). Cisgender people represent 42,905 (24.0%) of total participants, including 29,668 cisgender men and 13,237 cisgender women. The remaining 133,456 (74.6%) participants could not be categorized as TGD or cisgender due to ambiguous definitions of the study population.

Conclusions: Findings from our analysis of 41 milestone HIV clinical trials confirm TGD people remain underrepresented in HIV research, though there is a small uptick in the last 10 years. The lack of TGD representation in HIV clinical trials represents a historical erasure of TGD communities with potential public health consequences. These findings support our recommendation to utilize the Scorecard as a policy and advocacy tool to operationalize commitment to TGD representation in HIV research.

Epidemiology of HIV

THPEC043

Data-driven HIV prevention in Zambia: prioritizing sub-national high-burden areas for optimized intervention impact

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Background: Zambia has made significant progress in controlling the HIV epidemic through widespread HIV treatment and prevention initiatives. However, measuring the direct impact of HIV prevention, especially at local levels, presents challenges. To address this, the Clinton Health Access Initiative (CHAI) partnered with Zambia's Ministry of Health and the National AIDS Council to develop a methodology for analyzing HIV prevention data, aiming to create actionable insights for prioritizing high-impact interventions in areas of greatest need.

Description: An Excel-based data collation tool was created to streamline the collection and aggregation of epidemiological and program data, including HIV estimates, program data, and socioeconomic risk indicators from

2023 and 2024. disaggregated by age and gender. This tool enables the efficient identification of high-burden districts, allowing for data-driven prevention strategies to focus resources where they will be most effective.

Lessons learned: From 2010 to 2023, Zambia achieved a 65% reduction in new HIV incidence however, the burden remains concentrated, with 13 districts accounting for nearly half of all cases. Analysis revealed disparities in HIV incidence across age, gender, and geography, with adolescent girls and young women (AGYW) facing the highest risk. Despite representing just 11% of the population, AGYW account for 29% of new incidence. The data highlighted service gaps in high-burden districts, where access to condoms, PrEP, and VMMC services is limited. Identifying these areas has allowed for the development of tools, such as District Factsheets, that support targeted prevention efforts.

Conclusions/Next steps: The findings underscore the varied HIV incidence across Zambia, with higher rates in urban centers and among AGYW. By identifying districts with elevated incidence rates and unmet prevention needs, stakeholders can implement tailored interventions to address specific gaps. This approach promotes evidence-based methods in advancing a differentiated HIV prevention strategy across Zambia.

THPEC044

Sex differences in advanced HIV disease at presentation among people living with HIV in Latin America and the Caribbean

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Background: In 2024, UNAIDS reported an overall decline of 28% in AIDS-related deaths in Latin America but noted an increase among women in certain countries. Women remain underrepresented in HIV research, particularly in countries with concentrated epidemics (CE) such as most countries in Latin America.

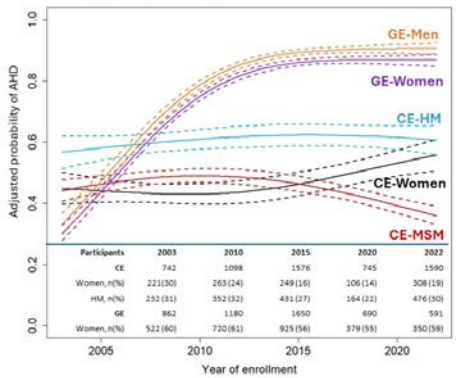
We therefore compared advanced HIV disease (AHD) at enrollment in HIV care between men and women in Latin America and the Caribbean.

Methods: Adults (≥18 years old) in the Central and South America network for HIV epidemiology (CCASAnet) enrolled between 2003 and 2022 were stratified by birth sex and HIV acquisition risk group as women, men who have sex with men (MSM), and heterosexual men (HM). We classified sites as experiencing either a generalized epidemic (GE, Haiti) or a concentrated epidemic (CE: Argentina, Brazil, Chile, Honduras, and Mexico).

We estimated the probability of AHD (defined as AIDS diagnosis or CD4<200 cells/μL) at cohort enrollment using logistic regression models, stratifying by sex/HIV acquisition risk group and CE/GE, and adjusting for age, education level, and calendar year of enrollment.

Results: Of 40,609 participants, 40% were from CE sites, where 19% were women, 60% were MSM and 21% were HM (at the GE site, 58% were women). At CE sites, the proportion of women enrolling declined from 29% in 2003 to 19% in 2022 . Median CD4 was highest for CE-MSM (335, IQR:157-526) cells/μL and lowest for CE-HM (177, IQR:58-360) cells/μL and GE-men (201, IQR:74-340) cells/μL. The adjusted probability of AHD increased among women in both epidemic settings (Figure 1).

Figure 1. Adjusted probability of Advanced HIV Disease (AHD) over time by birth sex and HIV transmission risk groups and epidemic setting.



Note: Curves are predictions from multivariable logistic models of advanced HIV disease (AHD; AIDS diagnosis or CD4 <200 cells/μL) at enrollment, stratified by sex and HIV transmission risk group (Women, MSM: men who have sex with men; and HM: heterosexual men) and epidemic type (CE: concentrated epidemic, GE generalized epidemic), including year of enrollment, secondary education level, and age at enrollment

Conclusions: In CE sites, the increasing trend of AHD among women contrasts the decreasing trend among MSM. In GE, both men and women show an increase in AHD over time. Our findings support the implementation of effective interventions that increase awareness, improve HIV testing, and hasten linkage to care among women.

THPEC045

HIV incidence trends and associated risk factors among people who inject drugs in Pakistan: programmatic data from a national harm reduction intervention

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Background: HIV prevalence among people who inject drugs (PWID) in Pakistan is estimated to be high (38.4% in 2017), but data on HIV incidence is unavailable. We estimated HIV incidence and associated risk factors among PWID in Pakistan using nationwide programmatic data.

Methods: We used data from Nai Zindagi Trust, which provides harm-reduction services to PWID across Pakistan. All participants provided self-reported behavioural data and were tested for HIV at enrolment, with HIV-negative participants offered re-testing every 3-6 months. PWID testing HIV-negative at baseline with ≥1 follow-up test were eligible for this study.

Univariable and multivariable Cox regression analyses explored factors for HIV acquisition risk, including socio-demographic (e.g., age, gender), structural risk factors (e.g., homelessness, incarceration), and risk behaviours (e.g., syringe sharing, public injecting) at enrolment.

Results: Among 89,021 PWID enrolled between 2012-2023, 88,427 (99.3%) had valid HIV tests, with 29,327 (33.2%) testing HIV-positive at baseline. Of 59,100 HIV-negative PWID, 43,783 (74.1%) had ≥1 follow-up test and were included in the incidence analysis. At baseline, 99.5% were male, with an average age of 31.2 years, and 71.2% were heroin injectors. Over 100,797 person-years (py) of follow-up over 2012-2023, 12,151 (27.8%) PWID acquired HIV, giving an overall incidence of 12.1/100py (95%CI: 11.8–12.3). Incidence was highest in Punjab (17.5/100py; 95%CI: 17.2–17.9) and lowest in Balochistan (0.7/100py; 95%CI: 0.4–1.1). By year, incidence peaked in 2016 (19.3/100py; 95%CI: 18.3–20.3) and declined steadily thereafter, reaching 10.2/100py (95%CI: 9.6–10.7) in 2023.

In the multivariable Cox regression model, higher HIV acquisition was associated with homelessness (aHR 1.09; 95%CI: 1.03–1.15), public injecting (aHR 1.26; 95%CI: 1.16–1.37), syringe sharing (aHR 1.08; 95%CI: 1.01–1.15), and injection by street doctors (aHR 1.14; 95%CI: 1.09–1.19) at enrolment; no associations were found for other variables.

Conclusions: HIV incidence among PWID in Pakistan has a declining trend from a peak in 2016, possibly due to effective prevention services with high coverage. This study demonstrates the value of programmatic data for monitoring HIV incidence and highlights an urgent need to initiate opioid agonist treatment and potentially HIV pre-exposure prophylaxis for enhanced impact.

THPEC046

HIV seroprevalence, self-reported STIs and associated risk factors among men who have sex with men: a cross-sectional study in Rwanda, 2015

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Background: Men who have sex with men (MSM) represent a key population with elevated risks for acquiring HIV and sexually transmitted diseases (STDs) in Rwanda.

This study aimed to estimate the prevalence of HIV, other STIs, and associated risk behaviours among MSM in Rwandan urban centres to inform targeted interventions.

Methods: In this cross-sectional study, we recruited through peer referral men aged between 18 and 60 years, who reported sex with men at least once in the 12 months prior to the survey. Representativeness was increased using ‚seeds' from a variety of sources. Signed informed consent was obtained from all participants.

Data on demographics, risk behaviours, and self-reported STIs were collected through an interviewer-administered questionnaire. We screened all eligible participants for HIV using the Rwanda-approved protocol for rapid HIV detection.

Results: Among 504 participants (median age 23 years, range 18–55), 96.0% (484/504) were unmarried. A self-reported history of gonorrhoea and/or syphilis was observed in 13.0% (65/504), while 10.5% (53/504) reported a gonorrhoea diagnosis and treatment in the past 12 months. HIV prevalence was 4.8% (24/504).

A significant proportion (46.0%, 232/504) reported receiving payment for sex by a man, with 46.1% (107/232) engaging in this activity more than three times. Most participants (76.4%, 385/504) reported HIV testing in the past 12 months. Multivariate analysis revealed that receiving payment for sex was independently associated with higher odds of a past STI diagnosis (adjusted odds ratio [AOR] 3.36; 95% CI: 1.82–6.43; P<0.001) and HIV positivity (AOR 3.13; P<0.05).

Conclusions: The findings underscore the high prevalence of transactional sex and its strong association with STIs and HIV among Rwandan MSM. This study highlights the urgent need for tailored interventions, including enhanced access to HIV prevention services, regular STI screening, and targeted behaviour change programmes. Future research should focus on understanding the structural and behavioural drivers underlying the high prevalence of transactional sex in this population, as it represents a significant risk factor for STIs, including HIV.

Monitoring and population-level interventions for non-HIV outcomes

THPEC047

Neutralizing antibody titers are immune correlates of COVID-19 risk in the Ubuntu study of people with HIV in East and Southern Africa

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Background: The CoVPN 3008 (Ubuntu) study, conducted in East and Southern Africa in 11,681 people with HIV (PWH) and 2321 people without HIV (PWoH), showed lower COVID-19 incidence for a hybrid immunity group (baseline SARS-CoV-2 positive, one mRNA-1273 dose) compared to a vaccine immunity group (baseline SARS-CoV-2 negative, two mRNA-1273 doses). We aimed to identify immune correlates of COVID-19 risk.

Methods: Vaccinations occurred between December 2021 and September 2022. Using case-cohort sampling, neutralizing antibody and IgG-binding antibody levels against Spike and Nucleocapsid measured at enrolment (M0) and four weeks post-final vaccination (Peak) were assessed as potential immune correlates of COVID-19. Proportional hazards models estimated hazard ratios (HR) of COVID-19 per 10-fold increase of antibody levels at M0 or Peak. A flexible nonparametric method, constrained to ensure monotone curves, estimated cumulative incidences of COVID-19 through approximately 3 and 7 months post-Peak as a function of antibody levels. All analyses adjusted for potential confounders.

Results: Antibody responses and immune correlates were similar for PWH and PWoH; results shown are pooled. For the hybrid-immunity group (n=287), all antibody markers at M0 inversely correlated with COVID-19 over 230 days post-Peak, with neutralizing antibodies the strongest and only independent correlate (HR=0.46, 95% CI 0.28-0.75, P=0.002). For the vaccine-immunity group (n=115), Peak neutralizing antibodies were an inverse correlate but only in early follow-up (HR=0.44, 0.23-0.85, P=0.015 through 92 days post-Peak; HR=1.08, 0.76-1.54, P=0.66 through 230 days post-Peak). Figure-1 shows marker distributions and COVID-19 risk by marker level.

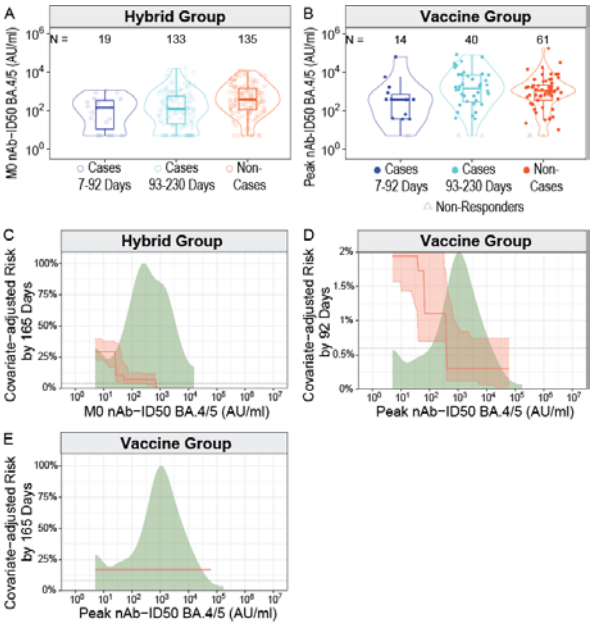


Figure-1. nAb-ID50 titer against BA.4/5 (**A**) at M0 in the Hybrid Group (N=287) and (**B**) at Peak in the Vaccine Group (N=115) by COVID-19 outcome status. Covariate-adjusted probability of COVID-19 (**C**) by 165 days for Hybrid by M0 titer; (**D**) by 92 days for Vaccine by Peak titer; (**E**) by 165 days for Vaccine by Peak titer. Titer distributions are shown. Days are post Peak. Peak, 4 weeks post last vaccine dose (M1 for Hybrid Group, M2 for Vaccine Group).

Conclusions: This study is the first to show that binding and neutralizing antibody correlates of protection apply for PWH. Moreover, this study quantifies the constrained cross-reactive protection of the ancestral-strain vaccine mRNA-1273 in a naïve population where even the highest antibody responses elicited by two doses without priming by natural SARS-CoV-2 acquisition impacted COVID-19 risk for only 4 months.

THPEC048

Distribution of HIV and viral hepatitis co-infection among people who use drugs in Rwanda

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Background: Coinfection of HIV and viral hepatitis B & C among people who use drugs (PWUD) represents a significant public health challenge, particularly due to the shared transmission mechanisms between the two infections. Managing both HIV and viral hepatitis simultaneously is challenging, often leading to negative health outcomes.

This study aimed to estimate the prevalence of HIV and viral hepatitis B & C coinfection and identify demographic and geographic variations among PWUD in Rwanda.

Methods: A cross-sectional survey using respondent driven sampling (RDS) was conducted in November 2024, involving 1,113 adults aged 18+ from ten predetermined sites across Rwanda. Data were collected through structured interviews, which assessed sociodemographic characteristics and health tests, focusing on drug use and risky behaviors. Co-infection status was determined through laboratory tests for HIV and viral hepatitis B & C.

Results: The national coinfection rate among PWUD was 0.59% (CI: 0.33–0.85). The prevalence was higher among men (0.65%, CI: 0.0–16.42) than women (0.21%, CI: 0.0–9.24). The median age of participants was 35+ years, with the highest prevalence in the 35+ age group (0.99%, CI: 0.0–20.48), followed by those aged 25-34 (0.75%, CI: 0.0–17.78). No cases of co-infection were found in the 18–24 age group. The regional coinfection rates varied: 2.19% (CI: 0.0–30.94) in Northern Province, 0.68% (CI: 0.0–16.91) in Southern, 0.57% (CI: 0.0–15.36) in Eastern, and lower rates of 0.37% (CI: 0.0–12.3) and 0.35% (CI: 0.0–11.93) in Western and Kigali City, respectively.

Conclusions: The findings highlight the low prevalence of HIV and viral hepatitis B & C coinfection among PWUD in Rwanda, with notable regional and gender differences. Targeted, integrated healthcare services that combine prevention, testing, and treatment for both HIV and viral hepatitis are critical. Expanding harm reduction programs, addressing barriers like stigma, and enhancing surveillance are essential for improving health outcomes for this high-risk population.

Methodology to support epidemiological studies

THPEC049

A path to sustainability: differentiated service delivery models in challenged government health facilities

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Background: On June 30, 2023, the Botswana Nurses Union (BONU) announced that nurses would cease dispensing medications effective July 1, 2023, citing the Nurses & Midwives Act Cap 02 of 2005, which excludes dispensing from their professional duties. This decision posed a significant threat to Botswana's progress toward the 95-98-98 targets for HIV epidemic control, as it risked treatment interruptions for people living with HIV (PLHIV), especially in districts already facing a shortage of pharmacy personnel.

In response, Tebelopele Wellness Centers (TWC), with its established expertise in Differentiated Service Delivery (DSD) models, collaborated with the Government of Botswana (GoB) to ensure continuity of treatment in affected communities. This partnership demonstrated the effectiveness of DSD models in maintaining care delivery even during crises.

Description: The GoB, through District Health Management Teams (DHMT), assigned four facilities with limited or no pharmacy personnel and no prior external funding in two districts to TWC for support. TWC conducted facility needs assessments to establish baseline requirements and guide program implementation.

Collaborating with community-based organizations, TWC introduced two DSD models: Community Medication Refill (CMR) and Facility Fast Track Refill (FFTR). Key preparatory activities included stakeholder engagement, community sensitization, supply chain optimization, and setting up monitoring and reporting systems.

These models served as stop-gap measures to maintain treatment continuity, reduce travel burdens for PLHIV, decongest health facilities, and support adherence and retention.

Lessons learned: Among the 823 PLHIV clients receiving treatment at GoB facilities, 585 (70%) were assessed for DSD model eligibility, with 457 (78%) meeting the criteria. All eligible clients opted to participate, with 311 (68%) selecting FFTR and 146 (32%) choosing CMR. The remaining 128 (22%) were ineligible for DSD models. By October 26, 2023, when the High Court ruled for the reinstatement of nurses' dispensing duties, 238 (30%) clients were not yet due for refills or clinical visits.

Conclusions/Next steps: Scaling up DSD models for PLHIV in Botswana improves patient-centered care, enhances the quality and efficiency of treatment delivery, and reduces healthcare system costs while maintaining equivalent clinical outcomes. These models also provide a resilient mechanism to address health service disruptions and ensure continuity of care during crises.

Surveillance: Measuring the HIV pandemic

THPEC050

Predictors of mother-to-child transmission of HIV among pregnant and breastfeeding women living with HIV in Rwanda

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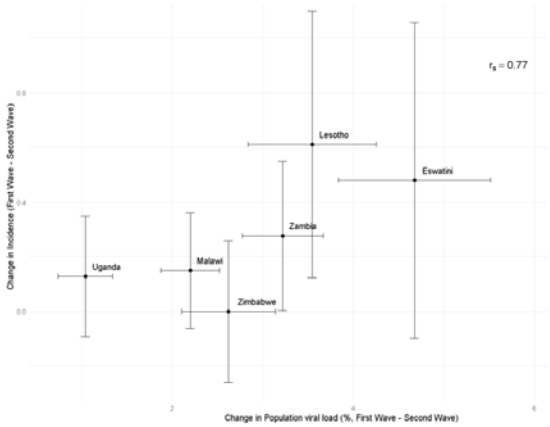
Background: Mother to Child Transmission (MTCT) has declined in Rwanda since implementation of universal coverage of Prevention of Mother to Child Transmission (PMTCT) program in all health facilities across the country. The transmission rate has been maintained below 2% for the last 10 years. However, exposed infants reamin at high risk of acquiring HIV infection from their mothers.
We assessed predictor of transmission and remaining gap to be closed toward elimination of mother to child transmission.
Methods: We conducted a retrospective cohort study to review clinical and demographic characteristics of pregnant and breastfeeding women living with HIV enrolled in PMTCT follow up, from July 2016 to June 2020 at 283 health facilities across the country. Eligible were all mothers of all ages who consulted antenatal care (ANC) living with HIV, mothers who tested positive in ANC and their infant after delivery. We used STATA 17 for data analysis. Logistic regression analysis was used to assess predictors of mother to child transmission.
Results: A total of 9,734 pair mother-infants have been enrolled and mother's mean age was 35 ± 6.56 years. About 84.25% were living with HIV before first antenatal care (ANC1) with 99.69% on ART, 15.75% tested HIV positive in ANC1 with 99.33% initiated on the ART. Among, 66(1.1%) infants were identified HIV positive during 24 months follow up. Mothers with 25 – 34 years showed a higher transmission to their infant 44% (p 0.001) and living with male partner had association with transmission at 75% (p < 0.001). In multivariate analysis, mother to child transmission was associated with being negative or with unknown HIV status in ANC1 (aOR:2,36, 95% CI: 1,31 – 4,26), having viral load > 1000 copies/ml at 6-month post-delivery (aOR:17, 95% CI: 9.71 -33) and infant birth weight below 2.5kg (aOR: 2.17 95% CI: 1.02 – 4.59).
Conclusions: Despite Rwanda has significantly reduced the MTCT rate, identified predictors still contribute to transmission. Interventions should focus on viral load suppression, providing appropriate suport to mothers with infant born small, and supporting mothers who knew their positive status in ANC. Addressing these predictors is vital for eliminating mother to child transmission.

THPEC051

Progress towards key UNAIDS targets: change in adult HIV incidence and population viral load across six African countries over a 5-year period

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Background: Population-based HIV Impact Assessment (PHIA) household surveys provide empirical estimates of HIV-1 incidence and HIV-1 population viral load. First and second wave PHIA surveys were conducted five years apart (range 4-6 years) between 2015-2017 and 2020-2021, respectively. These surveys quantify progress towards UNAIDS targets.
Methods: First and second wave PHIAs were conducted in Eswatini, Lesotho, Malawi, Uganda, Zambia, and Zimbabwe. For each country, changes in HIV-1 incidence rates and HIV-1 population viral load were estimated among individuals aged 15-59. Recent HIV-1 was classified using a cross-sectional algorithm consisting of HIV-1 limiting antigen avidity enzyme immunoassay, HIV-1 viral load, and antiretroviral detection, and was used for estimation of incidence. Population HIV-1 viral load was estimated as the proportion of all adults with detectable viral loads. The association between HIV-1 incidence and population viral load was estimated with Spearman correlation. All analyses accounted for the complex sample designs of the PHIA surveys.
Results: Both HIV-1 incidence and population viral load were higher during the first than second wave surveys; however, trends were not consistent across countries. The change in HIV-1 incidence ranged from -0.61/100PYs (95% CI: -0.12, -1.10) in Lesotho to 0.00/100PYs (95% CI: -0.26, 0.26) in Zimbabwe. The change in population viral load ranged from -4.7% (95% CI: -3.8%, -5.5%) in Eswatini to -1.0% (95% CI: -0.7%, -1.3%) in Uganda. Declines in population viral load were strongly correlated with declines in incidence (correlation coefficient=0.77).



Conclusions: Changes in HIV-1 incidence and population viral load demonstrate progress towards UNAIDS targets and were highly correlated, but progress was not uniform.

THPEC052

Trends in orphanhood incidence and prevalence among children and adolescents in Rakai, Uganda, 1995-2022

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Background: Orphans face multiple health and social consequences. HIV treatment and prevention programs have contributed to dramatic declines in the prevalence of orphanhood in sub-Saharan Africa. Less is known about declines over time in incident orphanhood and factors associated with this decline, including changing attribution to HIV infection.

Methods: We used population-based census data from 28 continuously surveyed communities in the Rakai Community Cohort Study to calculate maternal, paternal, and double orphanhood prevalence and incidence by census round (N=47,177). Orphanhood incidence trends were estimated using a non-parametric hierarchical Bayesian model. Poisson regression was used to estimate incidence rate ratios (IRR) of orphanhood by time period: 1-pre-antiretrovrial therapy (ART) (1995-2004), 2-ART rollout (2005-14), and 3-Universal ART (2015-22).

Population attributable fractions of incident orphanhood due to parent's HIV positive serostatus were estimated among those with parents tested for HIV (Maternal: 32,866; Paternal: 20,096).

Results: Prevalence and incidence of orphanhood declined over time following the introduction of ART in 2004. Prevalence among all persons aged 0-17 years declined from 27.7% in 1995 to 21.5% in 2004 to 6.3% (1 in 16 Rakai children) in 2022. Orphanhood incidence also declined sharply from 20.5 per 1000 person-years in 2003 to 5.9 in 2022 for paternal orphanhood, and from 8.55 to 2.3 per 1000 person-years for maternal orphanhood. The sharpest declines in orphanhood incidence occurred among children and adolescents with parents living with HIV.

Among those with known parental HIV status, HIV+ status was associated with almost ten times the IRR of incident orphanhood (maternal orphanhood: IRR 9.98, 95% CI: 8.58-11.60; paternal orphanhood: IRR 8.94, 95% CI: 7.96-10.10). The proportion of incident maternal and paternal orphanhood attributed to parental HIV+ status declined from 67% and 71%, respectively, during the Pre-ART period to 11%-12% during the universal ART period.

Conclusions: Orphanhood prevalence and incidence, including orphanhood cases attributed to HIV, dramatically declined following the introduction and expansion of ART in Rakai, Uganda. However, the burden of orphanhood remains considerable and demands evidence-based responses.

THPEC053

Estimating HIV incidence using a longitudinal assessment of routine community-based testing data across the WHO European Region: insights from the COBATEST Network

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Background: Over the past two decades, global HIV incidence has decreased, but this decline is slowing, and in some regions, it has plateaued or risen, particularly among key populations (KPs). Monitoring changes in HIV incidence over time within these groups is essential. Nevertheless, longitudinal incidence data for KPs remains scarce due to logistical and economic challenges. Community-based testing services are vital for reaching and testing KPs. The COBATEST Network connects such services across Europe and Central Asia, sharing harmonised data. An anonymised unique identifier helps track repeat testers, enabling longitudinal data analysis. The study aimed to demonstrate the feasibility of using routine community-based testing data to calculate HIV incidence for KPs.

Methods: A retrospective longitudinal analysis was conducted on testing data collected by COBATEST Network members using the COBATEST online data collection tool during the period 2014-2023. Participants with a at least two visits and a negative-HIV test result at the first visit, or those with only one visit but a self-reported previous HIV-negative test during the study period, were included in the analysis. HIV incidence rates were calculated using person-time measures and 95% confidence intervals (CIs).

Results: Over the entire period, 38657 participants were included in the analysis, contributing 66605.73 person-years, and 447 participants seroconverted, resulting in an overall incidence of 0.67 per 100 person-years (95% CI: 0.61-0.74), ranging from 0.44 in year 2014 to 0.92 in year 2016. The estimated incidences across KP groups were as follows: 1.02 (95% CI: 0.92-1.13) for men who have sex with men (MSM), 0.27 (95% CI: 0.14-0.48) for people who inject drugs (PWID), 1.21 (95% CI: 0.98-1.45) for sex workers (SW), and 1.42 (95% CI: 1.21-1.64) for non-European migrants.

Conclusions: This study demonstrates the feasibility of using routine community-based testing data to estimate HIV incidence among key populations (KPs). The findings reveal significant variability in incidence rates, with non-European migrants, MSM, and SW facing the highest burden.
The use of anonymized unique identifiers and harmonized data collection within the COBATEST Network is a valuable approach for longitudinal monitoring. Expanding such networks and data-sharing initiatives can strengthen surveillance and inform public health responses and policy.

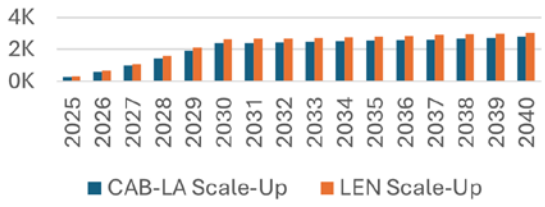


Figure 1. Annual infections averted.

Conclusions/Next steps: Injectable PrEP offers the opportunity to unlock impact at scale. However, securing affordable commodity costs and reducing delivery costs through less frequent clinic visits will be critical to achieving cost-effectiveness.

Modelling the HIV pandemic

THPEC054

Curbing HIV transmission in Malawi by scaling long-acting injectable PrEP: a modeling analysis

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Background: In 2023, an estimated 72,335 people received pre-exposure prophylaxis (PrEP) in Malawi. However, there were 12,000 new HIV acquisitions that same year, highlighting persistent unmet need for prevention. Many individuals and programs face challenges with oral PrEP due to stigma and pill burden, among other issues. Long-acting PrEP products like long-acting cabotegravir (CAB-LA) and lenacapavir offer the opportunity to address many of the challenges faced with oral PrEP. This analysis modelled the costs and health outcomes of injectable PrEP scale-up in Malawi to inform decision-making.
Description: This analysis used the Goals model in Spectrum (version 6.38) to estimate the costs and health outcomes of various injectable PrEP scale-up scenarios from 2025-2040. Goals models HIV transmission by population groups based on behaviors, epidemiological factors, and the impact of interventions. Efficacy and adherence rates were assumed to be 90% and 50%, respectively, for oral PrEP, 90% and 90% for CAB-LA, and 95% and 95% for lenacapavir. In the oral PrEP scenario, current coverage rates were held constant through 2040. In the injectable PrEP scenarios, we assumed UNAIDS PrEP coverage targets were reached in 2030 (80% coverage among sex workers; 80% coverage among MSM; 50% coverage among people who inject drugs; 50% coverage among clients of sex workers; 20% among medium risk heterosexual women via linear scale-up and then maintained. The method mix was assumed to reach 70% injectable and 30% oral in 2030 via linear scale-up of injectable.
Lessons learned: The injectable PrEP scale-up scenarios would avert between 33-37K HIV acquisitions compared to constant coverage of oral PrEP from 2025-40 at USD $1,600-1,800 per acquisition averted (assuming $100 per person treated for any PrEP product).

HIV prevention research

THPEC055

Uptake of injectable long-acting cabotegravir pre-exposure prophylaxis among vulnerable populations in Zambia

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Background: In Zambia long-acting Cabotegravir (CAB-LA), an injectable form of HIV pre-exposure prophylaxis (PrEP), was launched in February 2024 and is currently offered in eight of ten provinces. HIV prevalence is over two-times higher among Vulnerable populations (VPs) compared to the general population in Zambia, with female sex workers (FSW) at 45%, men who have sex men (MSM) at 21%, and people who inject drugs (PWID) at 23% according to Zambia's 2023 Biological and Behavioural Surveillance Survey.
The National AIDS Council has been increasing access to HIV prevention methods, including PrEP, for VPs across the country to reduce HIV transmission. We reviewed program data to investigate uptake of CAB-LA among VPs, as a strategy to reduce new infections in Zambia.
Methods: Using country-wide program data from the Ministry of Health DHIS Tracker for CAB-LA, we reviewed and described clients screening, uptake, and discontinuations of CAB-LA PrEP in Zambia. We collected data on sociodemographic characteristics, population categories, and uptake of CAB-LA. Deidentified and aggregated data were analyzed to determine CAB-LA uptake by VP types. Data were analyzed using R and Stata.

Results: A total of 3,221 clients were screened, and 16% (525/3,221) were VPs. Of the 525 VPs, 94% (492/525) were initiated on CAB-LA PrEP. Nearly half (47%) of the VPs were aged 25-35 with 38% (185/492) aged 16-24. Of the 492 VPs initiated, nearly two-thirds (64%) (317/492) were FSW, 29% (142/492) were MSM, and 7% (33/492) were vulnerable persons.

After the first dose, 8% (41/492) of VPs discontinued CAB-LA with 71% (29/41) of discontinuations among FSW. Muchinga Province had the highest (46%) (225/492) VPs initiated on CAB-LA. Of those initiated in Muchinga, nearly 73% (165/225) were FSW. Of the 165 FSW, 45% (75/165) were aged 25-34 and 38% (63/165) were aged 16-24 years.

Conclusions: Vulnerable Populations have an increased risk of acquiring HIV. In reducing new HIV infections among VPs, CAB-LA plays a critical role in preventing new HIV infections. VP friendly strategies should be put in place to enhance uptake and retention of CAB-LA among the VP community in Zambia.

THPEC056

A prospective cohort study assessing implant site healing, implant acceptability and PrEP preferences following removal of the tenofovir alafenamide sub-dermal implant

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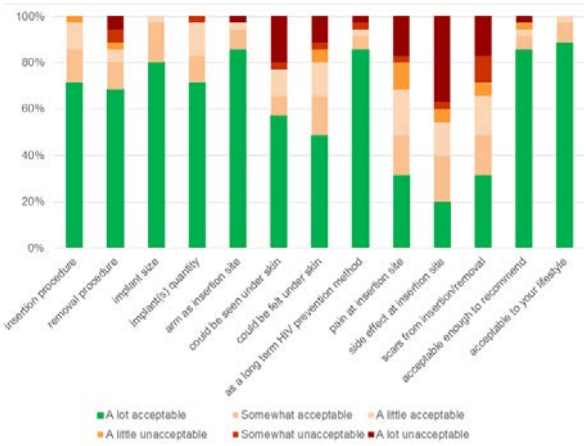
Background: The CAPRISA 018 Phase I/II trial evaluated a novel 110mg tenofovir alafenamide implant for HIV prevention in South African women over 48 weeks. This follow-up cohort study, CAPRISA 097, assessed the long-term resolution of implant site reactions (ISRs) after implant removal, while exploring implant acceptability, preferred attributes, and HIV pre-exposure prophylaxis (PrEP) preferences, to inform the design of next-generation PrEP implants by providing insights into user preferences.

Methods: Women from the CAPRISA 018 trial were followed quarterly for 12 months after implant removal. ISR prevalence was assessed at each study visit and were evaluated for severity and healing. Implant acceptability and PrEP modality preferences were assessed at enrolment, Month 6, and Month 12.

Results: In total, 35 of the 36 participants from CAPRISA 018 were enrolled in CAPRISA 097. Participant median (interquartile range [IQR]) age was 29 (23-32) years. At study entry, which occurred a median (IQR) of 9.8 (7.9-16.1) months after implant removal, all participants had ongoing scarring, 14% had ongoing hyperpigmentation, 6% had induration and 3% had hypopigmentation.

At study exit, a median of 18.9 (19.0-26.9) months after implant removal, scarring was still observed in all participants, with hyperpigmentation in two participants and induration in another. All ISRs were mild (Grade 1) throughout the study. Implant visibility, palpability and ISRs reduced implant acceptability (Figure1: Implant acceptability at enrolment).

At enrolment and month 12, the preferred PrEP modalities were a 12-monthly implant (38.2% vs 50%), a 6-monthly injectable option (29% vs 37.5%), oral (11.8% vs 6.3%) or vaginal PrEP tablets (11.8% vs 0%), a 6-monthly implant (0% vs 3.1%) and the vaginal ring (2.9% vs 0%).



Conclusions: ISRs such as scarring, hyperpigmentation, and induration while mild are persistent reducing the acceptability of the implants. Despite these drawbacks, 12-monthly subdermal implants remain the preferred choice for women who have used the TAF implant.

THPEC057

Bridging the gaps: enhancing pre exposure prophylaxis uptake among adolescent girls and young women through support groups on the DREAMS initiative in Kapiri Mposhi District, Central Zambia

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Background: Adolescent girls and young women (AGYW) remain disproportionately affected by the HIV epidemic, particularly in sub-Saharan Africa. Despite the availability of pre-exposure prophylaxis (PrEP) as a highly effective biomedical intervention for HIV prevention, the uptake and adherence rates among AGYW are alarmingly low. Various barriers contribute to this gap, including stigma, limited access to healthcare services, misinformation about PrEP, and socio-economic challenges.

Cultural norms and gender-based violence further exacerbate these issues, creating an environment where AGYW feel marginalized and powerless. The USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP II) Activity aimed to ascertain the effectiveness of PrEP peer support groups in DREAMS Sites in Kapiri Mposhi District.

Methods: Between October 2023 to September 2024, using trained biomedical mentors and connectors, the USAID Controlling HIV Epidemic for Key and Underserved Populations (CHEKUP II) Activity addressed the barrier of PrEP uptake through formation of peer support groups in Kapiri Mposhi. AGYW who had earlier accessed PrEP engaged their peers in five support groups through Focus Group Discussions. Data was collected through desk reviews, erims and DHIS2.

Results: 5,308 Adolescent Girls and Young Women in Kapiri Mposhi newly accessed PrEP against a target of 1,654 compared to 3,144 in 2023, while 7,193 continued on PrEP in 2024 reporting year compared to 2,871 in 2023. The increase in PrEP uptake and retention, signifies acceptability of the service while highlighting the significant role of peer support. Peer supporters leveraged on their lived experiences to exchange information, correct misconceptions and provided support for each other. Supportive peer networks enhanced comfort levels and encouraged PrEP uptake

Conclusions: This research underscores the importance of PrEP support groups in enhancing uptake among adolescent girls and young women. The realities of PrEP uptake among adolescents highlight the need for targeted interventions that address the unique barriers this population faces. By fostering supportive environments, educating adolescents, and improving access to healthcare, we can promote higher rates of PrEP uptake and better sexual health outcomes among young people. We recommend use of support groups to enhance PrEP uptake and retention as peers will share knowledge and support leveraging on their lived experiences.

THPEC058

Strengthening post-exposure prophylaxis uptake among sexual violence survivors through immediate access at police stations in Nigeria's Federal Capital Territory

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Background: Data on sexual violence (SV) prevalence in Nigeria is limited; however, findings from the 2014 Nigeria Violence Against Children Survey found that 24.8% of females aged 18 to 24 years experienced SV in childhood, and only 3.5% received any form of services. Initiation of post-exposure prophylaxis (PEP) to prevent HIV infection following SV is most effective when started immediately and is not recommended after 72 hours. Police stations are often entry points for SV survivors; however, lengthy processes may result in missed PEP opportunities due to delays in timely linkage to health facilities.
Using a phased approach, we introduced PEP into selected police stations in Nigeria's Federal Capital Territory to explore how to increase access to time-sensitive HIV prevention within non-health services.
Methods: Our intervention phase consisted of the provision of immediate PEP starter packs coupled with linkage to the nearest referral facility for the remainder of the PEP doses.
During two time periods (Pre-intervention: January – March 2023) and (During Intervention: July – September 2023), we evaluated routinely reported program data from 27 U.S. Centers for Disease Control and Prevention-supported health facilities for changes in the provision of SV services and PEP initiation.
We used geospatial mapping to assess the proximity of participating health facilities to police stations and changes in both SV and PEP service provision. The statistical significance of the difference in PEP uptake proportion during the two periods was determined using Wilcoxon signed rank test at 0.05 level of significance.
Results: Of the 27 health facilities, 24 were within a 5km radius of a participating police station. Total SV service provision was 114 cases, with 56x PEP initiations (pre-intervention); this increased to 218 SV cases, with 218xx PEP initiations (during intervention). Results indicate that SV service provision increased by 91.2% and PEP initiation increased by 289.3%.
Conclusions: Our findings showed promise in increasing immediate access to PEP in non-health services and highlighted the feasibility of police stations and health facilities to collaborate to address urgent health needs. There was an overall increase of PEP initiations by referral and non-designated referral facilities, possibly due to increased access at police stations.

THPEC059

A randomized, double-blind, controlled, phase 2 clinical trial to evaluate safety, tolerability, pharmacokinetics, and neutralization of VRC07-523LS, PGT121.414.LS, and PGDM1400LS broadly neutralizing monoclonal antibodies given intravenously in adults without HIV

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Background: The global HIV epidemic demands innovative prevention tools to complement existing strategies. The Antibody-Mediated Prevention (AMP, HVTN703/HPTN081 & HVTN704/HPTN085) trials demonstrated the protective efficacy (PE) of a single broadly neutralizing antibody (bnAb) in participants with sensitive HIV strains, indicating the need for a combination of bnAbs to enhance PE. HVTN206/HPTN114 is the first phase 2 study to evaluate the safety, tolerability, pharmacokinetics (PK), and neutralization capacity of a triple-bnAb combination—VRC07-523LS, PGT121.414.LS, and PGDM1400LS—administered intravenously to adults without HIV.

Methods: HVTN206/HPTN114's design was informed by AMP and six subsequent phase 1 trials with next-generation bnAbs. We found that LS-modified bnAbs, individually and in combination, are safe, well-tolerated, and maintain PK and neutralization activity for at least six months. These trials showed no significant anti-drug antibody (ADA) development or interference between bnAbs, and supported fixed-dose regimens as comparable to weight-based dosing.

Results: HVTN206/HPTN114 is a randomized, double-blind, controlled trial conducted at 12 clinical sites across Brazil, Peru, South Africa, and the United States. 200 adults of all gender identities, without HIV, aged 18–65 will receive two intravenous infusions, spaced six months apart, in one of two dosing groups:

1. a lower dose (400 mg of each bnAb per infusion) or;
2. a higher dose (3200 mg of VRC07-523LS, 1600 mg of PGT121.414.LS, and 1600 mg of PGDM1400LS per infusion).

The design incorporates fixed doses to standardize administration and reduce complexity. Data collection includes adverse events, serum PK, neutralization activity, and ADA detection, with subgroup analyses based on age, gender, and weight. This design builds on prior evidence to further evaluate the triple-bnAb combination for long-acting immunoprophylaxis.

Conclusions: HVTN206/HPTN114 represents a critical step in advancing HIV prevention strategies by testing a triple-bnAb combination informed by robust evidence from the AMP efficacy trials and phase 1 trials with next-generation bnAbs, including HVTN140/HPTN101 with the same triple-bnAb combination.

This trial will inform the design of the combo-AMP efficacy trials and could establish HIV bnAbs immunoprophylaxis (passive immunization) as a biannual, long-acting option for HIV prevention, addressing key gaps in current strategies and enhancing global HIV prevention programs.

THPEC060

A competing risks duration model to study PrEP discontinuation among men having sex with men in France: The ERAS 2023 study

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Background: PrEP effectiveness is hindered by high discontinuation rates. Despite the wide literature about PrEP discontinuation (PD), the role of PrEP weariness (PW) remains unclear. We aimed investigating PD providing further insight about PW and accounting for different reasons for discontinuation.

Methods: The French online survey *Enquête Rapport au Sexe 2023* targeting men having sex with men (MSM) was used. The outcome was the duration between the date of first PrEP prescription and the date of PD. An accelerated failure time model was implemented. Competing risks accounted for different reasons of PD: changes in sexual behaviors (CSB, e.g. number of partners), desire to discontinue PrEP (DDP e.g. declared preference for condoms), and clinical reasons (CR, e.g. secondary effects, seroconversion, medical decision).

Demographic, socioeconomic, psycho-behavioral and geo-epidemiological factors were considered. Mpox vaccination proxied closeness with the gay community. PW was investigated by a Weibull distribution estimating the effect of time elapsed in PrEP over the probability of PD (Weibull parameter, WP) measuring duration depen-

dence: negative <1, null=1, positive >1. Acceleration factors (AF), interpreted as hazard ratios and 95% confidence intervals (95%CI) were presented.

Results: Of 23502 MSM, 4819 declared current or past PrEP use. Among them, 870 discontinued PrEP (median[IQR] duration: 10[3-21.75] months). CSB, DDP and CR explained 54.5%, 26.2% and 19.3% of PD respectively.

Younger participants with CSB (AF[95%CI]: 0.950[0.937-0.964]) were more likely to PD. Concerning DDP, residents in regions with low HIV incidence (AF[95%CI]: 2.320[1.054-5.107]), youngest and oldest participants (U-shaped effect, AF_age[95%CI]: 0.780[0.663-0.919], AF_age²[95%CI]: 1.252[1.028-1.525]) were more likely to PD. Concerning CR, PD probability increased for unemployed (AF[95%CI]: 3.513[1.615-7.645]), first PrEP prescription at hospitals after 2021 (AF[95%CI]: 4.322[1.209-15.443], versus prescription by general practitioners), in rural areas (AF[95%CI]: 2.312[1.099-4.868]) and using condoms at most recent sexual encounter (AF[95%CI]: 5.223[2.478-11.005]). Overall, the probability of PD decreased with the number of sexual partners and for those close to MSM community.

Negative duration dependence was found for the three reasons of PD (CSB_WP[95%CI]: 0.495[0.469-0.524]; DDP_WP[95%CI]: 0.590[0.554-0.628]; CR_WP[95%CI]: 0.630[0.590-0.672]) implying a probability decrease with the time elapsed using PrEP.

Conclusions: Our results suggested no PW among French MSM. However, counseling/support should target differently PrEP users according to the drivers inducing discontinuation.

THPEC061

PEPtoPrEP: descriptors and factors associated with initiating PEP and PrEP uptake post possible exposure to HIV as part of the FastPrEP study in Cape Town, South Africa

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Background: Initiating long-acting injectable pre-exposure prophylaxis (PrEP) in users during periods of very recent HIV sexual exposure and potential asymptomatic acute HIV acquisition should be avoided. Initiating PrEP directly after completing post-exposure prophylaxis (PEP) treatment with confirmed HIV sero-negativity in the user provides an alternative approach. This mixed-method study aimed to describe this process in community-based differentiated delivery service.

Methods: FastPrEP is an ongoing implementation science project in Cape Town, South Africa, evaluating adolescent and young people's PrEP uptake and effective PrEP use from community-based mobile clinics, primary health facilities and courier delivery service. Along with oral and Dapivirine ring, long-acting injectable cabotegravir (CAB-LA) is currently provided. Routine questions determining participant exposure to HIV in the previous 72 hours, and participant user characteristics (demographics and sexual profiles/ experiences) were introduced in May 2024 for participants (male or female, ≥ 15 years) enrolled onto FastPrEP. Descriptive statistics were used to describe user characteristics, PEP and PrEP uptake and reasons for declining PrEP initiation.

Results: From May-December 2024, 37 males and 36 females (N=73) with a mean age of 27.5 years, reported potential HIV exposure in the previous 72 hours, of which 4 (6%) acquired HIV. 81% were single with a partner and 12% knew their partners were HIV sero-positive.

Over half (56%) chose not to use condom protection, resulting in potential HIV exposure. Most of the participants (93%) were interested in taking PEP and 88% expressed interest in starting PrEP automatically after completing PEP. 93% of participants received PEP, with two thirds of these participants receiving PrEP after completing PEP. Reasons for declining PrEP included wanting PEP only and deferring the PrEP choice, and wanting more time to deliberate the decision to initiate PrEP.

Conclusions: Injectable CAB-LA PrEP is an attractive and effective prevention modality. Our data shows that offering PEP is feasible to mitigate the risk of initiating CAB-LA when a user may be seronegative but concurrently in the window period of asymptomatic acute HIV acquisition.

Further awareness and research are needed to further determine how to facilitate the uptake of PrEP after the PEP period.

THPEC062

HIV treatment outcomes following HIV acquisition on oral PrEP in Western Kenya

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Background: Kenya's oral PrEP program has been highly effective with few HIV diagnoses reported among PrEP clients since national scale-up was launched in 2017. However, up to 20% of individuals who acquire HIV on PrEP could have mutations that are associated with resistance to TDF or XTC, which could impact viral suppression on first-line ART with TDF/3TC/DTG.

Data are limited on ART outcomes following HIV acquisition on PrEP. We evaluated viral suppression on ART for 6 months following HIV acquisition among persons receiving PrEP.

Methods: ACTION (#R01AI16775) evaluates HIV treatment outcomes among individuals ≥16 years of age in western Kenya who are newly diagnosed with HIV following PrEP use in the previous 3 months.

Plasma samples collected at enrollment and 6-months post-ART initiation were tested for HIV RNA and genotyped (Sanger sequencing). Barriers to PrEP and ART adherence were collected by questionnaire.

Results: Ten individuals diagnosed with HIV while on oral PrEP (TDF/XTC) were enrolled in ACTION between 05/2023-07/2024. Participants were 21-37 years of age and 80% female. The median duration on PrEP was 275 days (range 5-1667 days) prior to HIV diagnosis. At diagnosis, median HIV RNA was 99,200 c/mL (IQR 16,200-218,000). The XTC-associated M184V mutation in HIV reverse transcriptase was detected in 2 of 8 participants with a successful genotype; none had TDF-associated mutations.

Ten individuals initiated first-line ART with TDF/3TC/DTG with a median duration to ART start of 2.5 days post-diagnosis. 9 of 10 participants, including 2 of 2 with M184V, achieved viral suppression (<200 c/ml) by 6-months follow-up.

The individual with viral non-suppression at 6 months self-reported limited to no ART adherence; barriers to accessing ART included moderate food insecurity and intimate partner violence.

Conclusions: Among individuals who acquired HIV after TDF/XTC PrEP use, most achieved viral suppression on DTG-based first-line ART, including participants with XTC-associated viral resistance. Efforts to support barriers to adherence for both PrEP and ART are needed to avert HIV acquisition and maintain viral suppression.

As long-acting PrEP modalities with potential cross-resistance to ART are rolled out, further studies are needed to monitor the effect of PrEP-selected ARV resistance on virologic outcomes on ART.

Integration of HIV services with other services, including sexual and reproductive health services

THPEC063

Postpartum family planning choices and decision-making among women living with HIV in Kigali, Rwanda

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Background: Postpartum family planning (PPFP) prevents unintended pregnancy and improves maternal, newborn, and family health. How to meet PPFP needs of women living with HIV (WLWH) is understudied. This study describes PPFP choices and decision-making among Rwandan WLWH.

Methods: The Center for Family Health Research implemented PPFP services in 14 Kigali public health facilities (2022-2024). PPFP informed-choice educational counseling was provided to women and partners beginning in antenatal care, and methods were provided in labor and delivery/postpartum and infant vaccination wards. Mixed-method follow-up surveys administered 9-months after PPFP uptake assessed decision-making.

Results: Among 38,226 pregnant women given PPFP educational counseling, 22,126 (58%) chose a PPFP method, of whom 324 (1.4%) were WLWH. WLWH vs HIV-negative women were more likely to choose sterilization (7% vs 3%) and the copper intrauterine device (38% vs 24%) independent of age and parity (adjusted risk odds ratio=2.0; 95% confidence interval=1.6-2.5). WLWH did not report greater PPFP-related adverse events than HIV-negative women (<1% in both groups).

Follow-up surveys among 50 WLWH and 64 HIV-negative women found WLWH were more likely ($p<0.05$) to be unmarried (30% vs 9%) and want no more children (72% vs 34%). PPFP decision-making in WLWH was more likely driven by desire for non-hormonal (20% vs 2%), highly effective (34% vs 28%), and long-term (26% vs 13%) methods. WLWH were also more likely to have continued their PPFP method at 9 months (86% vs 72%) and make independent PPFP-decisions (98% vs 31%). Among those married/cohabiting, WLWH were less likely to discuss PPFP with partners (60% vs 91%).

WLWH were also more likely to recommend peer (38% vs 17%) or home-based (58% vs 27%) PPFP educational counselling and discussed desire for HIV-tailored counselling, for example discussions of antiretroviral treatment-contraception interactions.

Conclusions: WLWH were more likely to choose highly effective, non-hormonal methods and make PPFP decisions independently, without outside influence. PPFP educational messaging should be tailored to provide information relevant to WLWH and may effectively be provided one-on-one and in non-traditional settings, in addition to clinical settings. These novel findings inform refinement of services for WLWH to increase the impact and inclusivity of PPFP programs in Rwanda.

THPEC064

Prevalence and incidence of chlamydia and gonorrhoea infections in adolescent females using long acting injectable cabotegravir as HIV pre-exposure prophylaxis in South Africa, Zimbabwe and Uganda: results from HPTN 084-01

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Background: Despite the high prevalence of curable STIs in eastern and southern Africa, there are few data on prevalence, incidence and risk factors in younger ado-

lescent females. We assessed the prevalence, incidence and risk factors associated with C.trachomatis (CT) and N. Gonorrhoeae (GC) infections in female adolescents using long-acting injectable cabotegravir (LA CAB) as HIV pre-exposure prophylaxis.

Methods: HPTN 084-01 was a prospective, open label clinical safety and bridging trial of LA CAB that enrolled HIV-negative sexually active, healthy female adolescents under age 18 from South Africa, Zimbabwe and Uganda between 2020 and 2021. Urine or vaginal swabs collected at screening, week 17 and week 33 visits were tested using GeneXpert. Socio-behavioural characteristics at baseline were summarised, STI prevalence and incidence calculated, and univariate associations between characteristics and CT/GC incidence assessed.

Results: Sixty-nine participants were screened and 55 enrolled. At enrolment, 27% (15/55) were aged 12 to 15 years, 69% (38/55) had a regular partner but did not live with him, 57% (26/45) reported condomless sex, and 22% (12/55) reported transactional sex in the past month. At baseline, 33% (18/55) had CT/GC; 31% (17/55) with CT and 7% (4/55) with GC (3 had both CT and GC). Over 53.9 person-years (py) of follow-up, 10 participants had 12 diagnoses of CT (incidence rate [IR] 23 per 100 py, 95% CI 11.6-39.3) and 5 participants had 6 episodes of GC (IR 11.3 per 100 py, 95% CI 4.1-24.5).

Overall CT/GC incidence was 33.4 per 100 py (95% CI 19.8-52.7). No significant associations between socio-behavioural characteristics and CT/GC incidence were observed.

Conclusions: CT/GC prevalence and incidence was high in this population of young women, emphasising the need for STI testing and treatment to be integrated into PrEP programs in eastern and southern Africa to prevent future negative health outcomes.

Population-specific interventions for HIV prevention

THPEC065

Peer-led PrEP/PEP strategy increases biomedical HIV prevention coverage among women who engage in sex work in Southwestern Uganda: the Peers for PrEP (P4P) Pilot Study

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Background: In Uganda, HIV prevalence is 31% among women who engage in sex work (WESW); yet PrEP use is limited due to stigma and lack of flexible services at health facilities. Peer-mentors, who are leaders in the WESW community, could be a trusted source of PrEP/PEP access, but approaches to engage peers in biomedical prevention delivery have been limited.

We developed and evaluated the preliminary effectiveness of a peer-led PrEP/PEP strategy for WESW in southwestern Uganda.

Methods: Peers for PrEP (P4P; NCT06353295) is a single-arm pilot trial testing a peer-led PrEP/PEP delivery strategy for cisgender WESW recruited from bars/venues in two communities in southwestern Uganda. We developed the P4P intervention through stakeholder engagement meetings and focus groups with WESW and peers.

The intervention, delivered by trained peer-mentors at bars/venues/community settings with remote clinician support, included oral PrEP (TDF/XTC) refills, HIV self-testing (HIVST), and rapid PEP access from peer-mentors, and phone hotline for peer support.

We compared time covered by PrEP/PEP (self-reported at baseline/endline) over 6 months before and after intervention implementation.

Results: Among 140 participants, median age was 23 years (range 15-42; IQR 20-27); 69 (49%) reported alcohol use 4+ times/week; 57 (41%) reported spending 1+ night away from community in last 3 months.

Over 6 months, 137 (98%) received HIV prevention services from a peer-mentor: 126 (90%) completed HIVST; 122 (87%) received a PrEP refill; 3 (2%) received PEP. 117 (84%) participants had outcomes ascertained at endline.

Time covered by PrEP/PEP was 72.7% during the 6-month study compared to 12.5% over 6 months before the study, a difference of 60.2% (95%CI: 54.3-66.1%; p<0.0001). There were no incident HIV diagnoses. 98% of participants reported feeling comfortable with the peer-mentor; 93% preferred to access PrEP/PEP through a peer-mentor in the future.

Conclusions: In this single-arm pilot trial, the P4P intervention increased HIV prevention coverage by 5-fold compared to the 6 months before study implementation. Most women received services from a peer-mentor and reported interest in continuing peer services.

This peer-led intervention is a promising approach for further testing in a larger trial, with additional long-acting prevention choices to address remaining gaps in prevention coverage.

THPEC066

Innovative community-driven strategies for sustaining PrEP continuation: lessons from the PEPFAR community HIV prevention in Liberia

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Background: Pre-exposure prophylaxis (PrEP) is an essential HIV prevention strategy introduced in Africa in 2017, that significantly reduces the risk of HIV infection among high-risk populations. PrEP discontinuation after one-month is generally high; pooled data showed continu-

ation rate highest among women (73.8%), followed by men who have sex with men (72.8%), female sex workers (46.6%) and the general population (46.5%).

In Liberia, PrEP was introduced in 2022, targeting Key Populations (KPs). Liberia leveraged best practices from established PrEP programs to improve PrEP continuation amongst KPs to heighten HIV prevention effectiveness. The Liberia program addressed known continuation challenges including stigma, systemic barriers, and diverse population needs during the design and start-up phase.

Description: Liberia's community HIV prevention program, funded through PEPFAR, supported through HRSA, and administered by Jhpiego, introduced PrEP through a multifaceted, community-based and integrated client centered strategy in two counties. Between June and September 2023, Jhpiego employed human-centered design and leveraged peer educators to deliver tailored community PrEP services.

Client centered approaches included using KP led CSOs, moonlight testing, community outreach programs, and influential peer leaders like "Mammy Queens" and "Five Stars" for PrEP advocacy.

Lessons learned: Following the implementation of these strategies, focused on addressing continuation barriers, of 2,536 individuals enrolled on PrEP, 2,186 were retained at the end of September 2024-a continuation rate of 86%. Using KP specific peer-educators and champions that used tailored messages that were culturally acceptable; conducting weekly mobile phone follow-up, built trust, reduced stigma, and reinforced adherence. This represented a substantial increase in PrEP availability in Liberia, which established very low targets in previous years. Mobilizing influencers enhanced advocacy and trust in the healthcare system.

By addressing known barriers to PrEP continuation at introduction and developing a culturally relevant, community-driven PrEP program, continuation rate was high even during start-up, therefore reducing HIV transmission among KPs in Liberia.

Conclusions/Next steps: Harnessing best practices from established PrEP programs during Liberia's PrEP introduction led to high retention. Future HIV prevention initiatives should continue to learn and leverage known best practices during program design to ensure no missed HIV prevention opportunities, and increase PrEP access among KPs, particularly in resource-constrained settings.

THPEC067

Understanding PrEP uptake and use patterns in the context of a multimethod PrEP market among pregnant and breastfeeding populations in public health settings in Africa

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Background: HIV acquisition is higher in women during pregnancy and postpartum. Data supports safe use of oral PrEP and PrEP ring during pregnancy and breastfeeding. CATALYST, a study implemented by the PEPFAR/USAID-supported MOSAIC project, assesses selection of oral PrEP and PrEP ring among women, including pregnant and breastfeeding populations (PBFP), in five African countries. However, country policies vary on allowable PrEP ring use. Kenya and Lesotho permit ring use by PBFP, while Zimbabwe allows it during breastfeeding only. We describe uptake and use patterns among PBFP enrolled in CATALYST.

Methods: We used descriptive statistics to describe uptake, month one return, and reasons for method selection among PBFP participants between May 2023 and April 2024 and compare results with non-PBFP participants. We used logistic regression to assess the relationship of pregnancy and breastfeeding status on method uptake.

Results: Among 1,591 participants in Kenya and Lesotho, 161 (10%) were pregnant at enrollment, and 149 (93%) chose a PrEP method. Fourteen percent of pregnant participants chose PrEP ring versus 33% of non-pregnant participants (AOR=0.339, 95% CI [0.213, 0.540], p=<0.001).

Among those choosing oral PrEP, refill rates at month 1 (≤60 days) were higher for pregnant participants (45%) versus non-pregnant (25%) and comparable for PrEP ring (50% and 62%, respectively).

Among those becoming pregnant during PrEP ring use (n=23), 20 (87%) switched to oral PrEP, while three (13%) stopped PrEP. Of 2,497 participants in Kenya, Lesotho, and Zimbabwe, 355 (14%) were breastfeeding. Ninety-five percent (n=338) chose a PrEP method, 19% choosing PrEP ring versus 32% of non-breastfeeding women (AOR = 0.512, 95% CI [0.402, 0.704], p<0.001).

Refill rates at month 1 were comparable between breastfeeding and non-breastfeeding participants for oral PrEP (36% versus 31%, respectively) and PrEP ring (65% versus 62%, respectively). The most common reason for method selection among PBFP and non-PBFP was ease of use.

Conclusions: We observed high PrEP uptake among PBFP. While PBFP less frequently chose PrEP ring than non-PBFP participants, some PBFP preferred it in countries where it was permitted. Policy restrictions on PBFP PrEP ring use limit access to a multi-method PrEP market for this population vulnerable to HIV acquisition.

THPEC068

Lessons from the Harm reduction strategy for increased HIV case detection and treatment among People Who Inject Drugs under the National AIDS Control Programme in India

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Background: National AIDS Control Programme (NACP) has achieved significant HIV detection among people who inject drugs (PWIDs) through harm reduction interventions provided through 398 Targeted intervention (TI) NGOs and 286 Opioid Substitution Therapy (OST) centres.
Harm reduction strategy combines health screening for HIV, HBV.HCV, TB etc. with prioritization of harms, risk reduction and prevention and treatment services.
Description: People who inject drugs have the highest HIV prevalence at 9.03 % among the high risk populations and are the main contributors to new HIV detections for 11 out of states 36 federal states/union territories in 2023-24 in India. Harm reduction services have been scaled up to reach uncovered PWIDs with screening, prevention and treatment services. In 2024-25, HIV case detection has reached 30197 at the TI NGOs and 16722 at the OST centres, of which 78 % and 93 % are linked to ART respectively.

HIV Case Detection by TI NGOs under NACP			HIV Case detection by OST under NACP		
Coverage of PWID	Total PLHIV	Total PLHIV linked to ART	Coverage of PWID	Total PLHIV	Total PLHIV linked to ART
272641	30197	23511	58648	16722	15510

This extensive HIV case detection has been achieved through a combination of outreach or mobile based screening services in the hotspots, static DIC/Clinic services, and linkage and referrals.
Lessons learned: Outreach services using peer to peer networks and community intelligence greatly amplifies the reach to uncovered PWIDs with testing and treatment services.
Targeted community based screening and mobile testing services are effective among PWIDs as they allow flexibility in approaches during outreach to suit multiple settings, reach hitherto unreached hotspots and congregation points and deliver screening services to allied service facilities such as rehabilitation centres or correctional homes etc. OST as a treatment for opioid use disorder greatly increases demand for services, helps reduce injection related harms including overdose, HIV, HBV and HCV and improves adherence to ART and chronic Hepatitis treatments. Linkage to ART remains a challenge among the PWID populations.
Conclusions/Next steps: Harm reduction strategy approach is effective for achieving 95-95-95 targets as it combines health screening for HIV, HBV.HCV, TB etc. with risk reduction, prioritization of harms, prevention and treatment for substance use disorders.
Co-located OST-ART facilities and community based ART refill groups can improve achievement of the 95-95-95 targets among PWID PLHIV populations.

HIV testing

THPEC069

Community-led approaches to reach high-profile men who have sex with men with HIV services in the central region of Ghana

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Background: In Ghana, reaching high-risk men who have sex with men (MSM) with HIV services is hindered by persistent stigma, discrimination, and limited outreach efforts. Among MSM, high-profile individuals—such as lawyers, politicians, and business leaders—represent a particularly hard-to-reach subgroup. These individuals are often more discreet in their sexual behaviors due to their social status, making them less likely to access conventional HIV programs. To effectively engage high-profile MSM, innovative, community-led strategies are needed to overcome these barriers and provide tailored HIV prevention, testing, and treatment services.
Description: A community-led intervention was piloted from March to December 2024 in the Central Region of Ghana to improve HIV service access among high-profile MSM. The intervention used peer-led outreach and differentiated service models. Key components included:

1. Community-based outreach: Trusted peer educators engaged high-profile MSM with tailored messages, creating safe spaces for individuals to seek care without fear of exposure.
2. Utilizing sexual networks: Peer educators leveraged MSM sexual networks to provide HIV testing services (HTS) at participants' homes, offering discreet and convenient access to services. thereby ensuring confidentiality and building trust.
3. Digital engagement: Social media platforms were used to deliver HIV education and virtual consultations, extending reach beyond face-to-face interactions.
4. Leveraging local leaders: MSM leaders helped deliver culturally sensitive messages and facilitated trust within the community, ensuring the protection of people's rights.

Lessons learned: The community-led approach proved more effective in reaching high-profile MSM than conventional outreach models. Program data demonstrated notable increases in HIV service uptake and a reduction in HIV-related stigma. The intervention led to significant improvements in health outcomes, with HIV testing uptake rising from 62% to 87%, condom use increasing from 71% to 93%, and the HIV-positive yield among participants increasing from 7% to 13.6%.
Qualitative feedback from participants highlighted the importance of trust and the reduction of fear regarding discrimination, encouraging sustained engagement with healthcare services.
Conclusions/Next steps: Given the success of this model, expanding community-based testing and engagement strategies for high-profile MSM is recommended for oth-

er districts in Ghana. Scaling peer-facilitated interventions can serve as a model for improving HIV prevention and care outcomes for this key population across the country.

THPEC070

Complementing community interventions with technology to maximize tracking of HIV exposed infants (HEI) final outcome, lessons from a community HIV program in Zimbabwe

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Background: In 2023, Zimbabwe Mother to Child Transmission (MTCT) rate stood at 5.7% which is above the WHO target of 5% (Zimbabwe HIV Estimates report, 2024). This is attributable to numerous factors that include paper-based tracking of HEI resulting in missed clinical appointment dates, poor follow-up of PMTCT mothers with high viral load, delayed final PMTCT outcome testing, and high Nucleic Acid Test (NAT) result turnaround time more than 6 to 8 weeks. In bridging the gap, the Zimbabwe USAID/PEPFAR funded Orphans and Vulnerable Children (OVC) is being implemented in 25 HIV burdened districts.
Description: The project utilizes trained mentor mothers through a community case management approach to prevent HEI from seroconversion. The mentors are responsible for bi weekly home visits to support PMTCT adherence, facilitate for EID testing, regular checking developmental mile stones and provide PMTCT sessions. In April 2023, the project adopted the DHIS2 tracker capture application with an embedded Early Infant Diagnosis (EID) module to identify HEIs due for EID testing, and records dates and results for completed tests throughout the PMTCT algorithm up to outcome. The application flags pending results while signaling to project staff and mentors the priority needs for HEIs being case managed, allowing timely follow-up on pending results with the laboratories.
Lessons learned: In 2024, 3,224 HEI enrolled in the project due for the final test were identified through the DHIS2 tracker capture app. 3,127 (97%) were tested for their final PMTCT outcome by September 2024 and 3,219(99.8%) received results within two weeks reducing the turnaround time by 50%. Of those tested, 3,210(99.7%) were negative and 9 (0.3%) were positive, achieving an MTCT rate within the national target of <5%.
Conclusions/Next steps: Digital longitudinal tracking of HEI is comprehensive, timely and reliable. Coupled individual-level case management, these approaches have contributed to high outcome testing among HEI and a low MTC rate. The next phase of the project is scaling the strategy to future cohort due for their PMTCT final outcome test.

THPEC071

Preferences for HIV self-testing modalities among sexually and gender-diversity adolescents in Brazil

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Background: HIV self-testing (HIVST) has proven instrumental in scaling-up HIV testing, decentralizing services and empowering individuals by strengthening their autonomy. HIV digital blood-based self-test (HIVDST) offers higher accuracy compared to the HIV oral fluid self-test (HIVOST) and is more recommended during the use of a Long-Acting Injectable Cabotegravir (CAB-LA) for HIV Prevention.
This study aimed to evaluate the preferences for HIV testing modalities among sexually and gender-diversity adolescents in Brazil (SGDA) in Brazil.
Methods: This cross-sectional analysis is part of the ongoing PREP15-19 choices implementation study which assesses the use of oral and CAB-LA PrEP among SGDA in three Brazilian cities. The study included a convenience sample of cisgender men who have sex with men (MSM), transgender individuals, and non-binary individuals aged 15–19 who underwent (HIVOST). Participants were required to perform a HIVDST before completing an acceptability questionnaire, in which they ranked their preferences among three HIV testing modalities: rapid testing conducted by a healthcare professional (RT), HIVOST, and HIVDST. Descriptive statistics of responses were estimated.
Results: A total of 171 individuals participated in the study. The majority were MSM (70.8%), aged 18-19 (50.3%), Black or Brown (78.4%), and high school students (66.7%). More than half (56.1%) of participants had undergone HIV testing before enrolling in the main. study. Additionally,33.6% reported being aware of the HIVDST, while 9.9% had previously used it, and 69.9% described the experience of performing this modality as easy or very easy. Regarding testing preferences, most preferred the RT (39.2%), followed by HIVDST (35.1%) and HIVOST (25.7%).
Notably, 93,6% stated they would use the HIVDST again, with the primary reason being greater confidence in blood-based results (51.5%). The fear of needles was the most commonly cited barrier (81.8%) for not wanting to repeat the use of this testing modality.
Conclusions: This study underscores that RT remains the most preferred HIV testing method among SGDA. However, a significant proportion of participants found the

HIVDST easy to use and expressed willingness to use it again citing greater confidence in its accuracy. Expanding awareness about HIVDST is essential to promote test uptake and ensure equitable access to HIV testing options.

THPEC072

Motivations for linkage to HIV services after HIV self-testing among fishermen in Kenya: a qualitative study

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Background: HIV self-testing (HIVST) is a promising strategy to increase access to testing, particularly for hard-to-reach populations like Kenyan fisherman who face barriers to clinic-based testing. This qualitative study examines motivations and barriers to HIVST and linkage to services among fishermen participating in the Owete Study, a social network-based intervention (NCT04772469).
Methods: Sixty-five in-depth interviews (IDIs) at 3-months follow-up were conducted with fishermen in Siaya County, Kenya, including 30 socially-connected men recruited as "promoters" to distribute HIVST and transport vouchers to clinics. Fishermen were purposively sampled based on age (< & ≥35 years), study arm, and community for IDIs exploring motivations for and barriers to using HIVST and linkage to services. IDIs were audio-recorded, translated/transcribed into English, then inductively coded and analyzed by 6 researchers using a framework approach.
Results: Convenience and privacy were key motivators for men's use of HIVST; fishermen valued an option that helped them avoid HIV stigma and unwanted status disclosure. Those who perceived themselves as high HIV risk due to behaviors like unprotected sex and multiple sexual partners were especially motivated to use HIVST. However, some men preferred clinic-based testing, for counseling and perceived testing accuracy.
Promoters' training highlighted the importance of knowing one's HIV status; this motivated promoters to learn their own status before encouraging others to test. Linkage to confirmatory testing was facilitated by perceived HIV risk, interest in accessing PrEP, and spousal encouragement. Study-provided transport vouchers (in the intervention arm) facilitated linkage to clinics by offsetting the costs of travel to the clinic and lost work time. Barriers to linkage included long distances to clinics, competing work priorities, and the perception that confirmatory testing was unnecessary if self-test results were negative. Gender norms which discouraged healthcare seeking and prioritized work over clinic visits unless men perceived immediate health benefits hindered linkage to HIV services.
Conclusions: HIVST is a valuable tool for increasing testing among highly mobile, at-risk populations such as fishermen, and its dissemination is enhanced through use of a social network-based approach. Interventions such as community-based services and extended testing hours may further improve timely linkage to HIV services following HIVST.

Cascades of HIV prevention, treatment and care

THPEC089

Characterizing individuals with unsuppressed viral load: a comprehensive analysis of viral load among people living with HIV enrolled in ART program in Rwanda, 2019-2024

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Background: Achieving viral suppression is critical for individuals enrolled in antiretroviral therapy (ART) programs to prevent disease progression and transmission of HIV. In Rwanda, despite high ART coverage, a subset of individuals remains with unsuppressed viral loads (VL). This study aims to characterize the demographic, clinical, and behavioral factors associated with unsuppressed viral load (VL) among the Rwandan population enrolled in the ART program.
Methods: This cross-sectional study analyzed data from the national database, encompassing children and adults enrolled in the ART program between January 2019 and December 2024. Unsuppressed VL was defined as ≥1000 copies/mL in the latest measurement. Advanced statistical methods were applied, including multivariable logistic regression to identify factors associated with unsuppressed VL and cluster analysis to profile high-risk subgroups. Propensity score matching was used to adjust for confounders, while multilevel modeling accounted for variations across healthcare facilities and regions
Results: The analysis inlcuded 55,557 ART-enrolled individuals , 4.21% had unsuppressed VL. Key predictors of unsuppressed VL included younger age (adjusted odds ratio [aOR]: 2.75, 95% CI: 2.55-2.96 for ages 0-24), male gender (aOR:1.19, 95% CI: 1.11-1.27), and inconsistent ART adherence (aOR: 3.40, 95% CI: 3.05-3.77). Cluster analysis identified two high-risk subgroups: younger individuals with irregular clinic attendance and older individuals with comorbidities. Multilevel modeling revealed facility-level factor, such as inadequate staffing significantly influenced viral suppression rates.

Conclusions: Unsuppressed VL in Rwanda's ART program is associated with demographic, behavioral, and systemic factors. Interventions targeting younger populations, enhancing adherence support, and addressing facility-level barriers are critical to achieving universal viral suppression.

Advanced statistical approaches revealed nuanced insights that can guide data-driven policies to optimize ART outcomes in Rwanda. Further research is needed to evaluate the impact of tailored interventions on reducing unsuppressed VL.

THPEC090

Current and prior PrEP use and associated factors among sexual and gender minorities (SGM) from Brazil, Mexico and Peru

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Background: Oral HIV PrEP is being scaled-up in Latin America, but uptake remains low. Herein we assessed the frequency of and factors associated with PrEP use among SGM in Brazil, Mexico and Peru.

Methods: We conducted an online survey from August-November 2024 among SGM aged 18+ years, excluding people living with HIV (PLHIV) to ask about current and prior PrEP use.

Herein we include age, country of residence, education, income, race/ethnicity, depression (PHQ-9), homonegativity, self-perceived HIV risk, HIV knowledge, number of sex partners, chemsex, and sex with PLHIV/unknown HIV-status partners in two multivariate logistic regression models exploring associations with

1. Current PrEP use (versus never) and
2. Prior PrEP use (versus current).

Regression models included socio-demographics *a priori*, removing other non-significant variables.

Results: Among 9257 non-PLHIV (Brazil: 65.5%; Mexico: 24.6%; Peru: 9.9%), 2380 (25.9%) were current and 649 (7.1%) were prior PrEP users. Current use varied significantly by country (Brazil: 32.1%; México: 19.0%; Perú: 21.7%).

Model 1: current PrEP use was associated with Brazilian residence, post-secondary education, higher income, lower homonegativity, lower self-perceived HIV-risk, higher HIV-knowledge, more sex partners, sex with PLHIV/unknown HIV-status, and recent chemsex.

Model 2: prior PrEP use was associated with: ≤secondary education, higher self-perceived HIV-risk, fewer sex partners, and fewer sex partners with PLHIV/unknown HIV-status (all aORs and 95%CIs in Table).

Characteristics	Model 1: Current PrEP use (Comparator = Never users) aOR [95% CI]*	Model 2: Prior PrEP use (Comparator = Current users) aOR [95% CI]*
Country (Ref: Brazil)		
Mexico	0.38 [0.31-0.45]	0.98 [0.72-1.34]
Peru	0.75 [0.59-0.96]	1.30 [0.90-1.88]
Post-secondary education (Ref: ≤secondary education)	1.45 [1.19-1.76]	0.53 [0.40-0.70]
Monthly income (Ref: <1 minimum wage)		
>1 to 2 minimum wage	1.02 [0.82-1.29]	0.87 [0.62-1.23]
>2-6 minimum wage	1.21 [0.99-1.48]	0.82 [0.61-1.11]
>6 minimum wage	1.39 [1.11-1.74]	0.77 [0.55-1.10]
Homonegativity	0.97 [0.96-0.97]	--
Perceived HIV risk	0.90 [0.89-0.91]	1.12 [1.10-1.15]
HIV knowledge	1.27 [1.21-1.35]	--
Chemsex	1.56 [1.37-1.78]	--
Number of sex partners (Ref: 0 or 1)		
2-5	3.75 [2.91-4.81]	0.31 [0.22-0.43]
6+	10.52 [8.16-13.55]	0.15 [0.10-0.21]
Sex with PLHIV (Ref: no)		
With 1	3.32 [2.73-4.03]	0.59 [0.45-0.79]
With 2-6	4.80 [3.45-6.67]	0.32 [0.17-0.58]
I don't know	2.62 [2.27-3.03]	0.64 [0.50-0.83]

PLHIV: People living with HIV. *Multivariate odds ratios were also adjusted for age and race. Bold text indicates a p-value<0.05.

Table: Socio-demographic and behavioral factors associated with PrEP use among SGM currently using PrEP and Prior PrEP users in Brazil, Mexico and Peru, 2024.

Conclusions: Current PrEP use was highest in Brazil where oral PrEP has been publicly available since 2018. The association of PrEP use with higher education and income, despite free availability, points to the need for increased public health communication and intervention. Behavior associations with current PrEP use point to PrEP knowledge and understanding of HIV-risk, such as a reduction in self-perceived risk and sex with PLHIV/unknown HIV-status. Differentiated PrEP services, such as mobile units and long-acting modalities, should be implemented in Latin America to increase PrEP persistence, especially among SGM with socio-economic vulnerabilities.

Social and behavioural aspects and approaches to HIV prevention and living with HIV

THPED073

Persistently low PrEP use and high unmet HIV prevention needs for PWID in the San Francisco Bay Area

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Background: Among MSM in San Francisco PrEP uptake increased 56% from 2014 to 2023 and HIV diagnoses in the population dropped by half. Conversely, PrEP uptake among people who inject drugs (PWID) decreased between 2018 to 2022 from 3% to 1.5% and new HIV diagnoses remained stable.
We launched a community-recruited cohort study of PWID in San Francisco and Oakland to gauge barriers and facilitators of PrEP uptake; here we present preliminary findings from the baseline data.
Methods: PWID in San Francisco and Oakland, California were recruited using Starfish Sampling, a novel approach that combines venue- and peer referral-based recruitment. Participants completed an interviewer-administered survey followed by a rapid HIV test. Quarterly follow-up is underway using a combination of phone calls, community outreach, and drop-in hours. Participants are given $50 for enrollment and $20 for each quarterly follow-up. Data are presented on socio-demographics, drug use, and HIV risk and preventive behaviors among 491 PWID recruited from April-December 2024 who were not living with HIV at enrollment.
Results: Most PWID not living with HIV were age 30-59 years (84%), male (67%), and persons of color (58%), with 34% identifying as Black/African American. Many currently experienced homelessness (69%) and 15% had been incarcerated in the past 3 months. Over half (54%) injected daily, with methamphetamine being the most common substance used (71%), followed by heroin (50%), and fentanyl (46%). Many reported injecting with used needles (10%), exchanging sex for drugs or money (16%), and having condomless sex (81%) in the past 3 months. Majorities saw a healthcare provider in the past 3 months (62%), had tested for HIV in the past 12 months (62%), and were aware of PrEP (61%). Less than 2%of PWID had used PrEP.
Conclusions: Our data found that no progress has been made to improve PrEP uptake among PWID in the San Francisco Bay Area with negligible use for several years. Free and widely available PrEP in healthcare settings is not sufficient. HIV prevention strategies are needed that address income, housing, and substance use at a minimum, and novel delivery models in and outside clinics are urgently needed for PWID.

THPED074

Utilizing community health promoters to enhance HIV treatment adherence in Kisumu County, Kenya

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Background: Kisumu County faces a critical challenge in achieving consistent HIV treatment adherence, with an adult HIV prevalence of 16.3%, significantly higher than Kenya's national average of 4.9% (Kenya HIV Estimates, 2021). Non-adherence to antiretroviral therapy (ART), reported at 30-50% in some resource-limited settings (UNAIDS, 2023), contributes to virologic failure, compromised immune health, and drug resistance. Community Health Promoters (CHPs)—local individuals trained in health education and psychosocial support—offer an effective strategy for overcoming socio-cultural barriers and improving ART adherence.
Methods: This study evaluated a CHP-led intervention targeting 500 HIV-positive individuals (aged 18–65) at risk of non-adherence (missing >20% of doses in the prior month) across seven urban and rural health facilities (Ministry of Health HIV Data, 2022). CHPs received training in adherence counseling, stigma reduction, treatment literacy, and referral pathways.
The intervention incorporated:
1. Household Visits: Weekly sessions for personalized counseling and support.
2. Treatment Reminders: SMS alerts to strengthen adherence.
3. Support Groups: Peer-led forums addressing stigma and psychosocial needs.
4. Data Reporting: Real-time challenges reported to healthcare providers.

Adherence outcomes were measured using self-reports, pharmacy refill records, and viral suppression rates (viral load <200 copies/mL). Qualitative data were gathered through focus groups and interviews with participants and stakeholders.
Results: The intervention led to substantial improvements: ART adherence increased from 65% to 88% ($p < 0.05$), while viral suppression rose from 57% to 85% ($p < 0.01$), aligning with findings in similar settings (Amollo et al., 2021). Qualitative results highlighted improved treatment literacy, reduced stigma, and enhanced trust in healthcare systems. Participants attributed these changes to consistent CHP visits and community mobilization efforts. However, logistical challenges in rural areas and the need for sustainable incentives for CHPs were noted.
Conclusions: CHPs demonstrate a transformative role in addressing barriers to ART adherence. This intervention supports WHO 95-95-95 goals by enhancing treatment literacy and viral suppression rates. Sustaining and scaling such programs requires policy-level investment and integration into existing healthcare systems. Further studies should explore long-term impacts and replication potential in other high-burden regions.

THPED075

Understanding preferences and transitioning between oral and injectable PrEP: insights from ImPrEP CAB Brasil Study

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Background: Long-acting injectable PrEP may enhance PrEP coverage and protection, demonstrating potential in overcoming adherence issues associated with daily oral PrEP. We describe preferences and transitions between oral and injectable PrEP during ImPrEP CAB-Brasil study.

Methods: ImPrEP CAB-Brasil is an implementation study of same-day delivery of injectable CAB-LA PrEP for young sexual and gender minorities (SGM; 18-30 years) in PrEP public health clinics in six Brazilian cities. PrEP naïve participants were enrolled from October-2023 to October-2024 and followed for 48-weeks. Participants are allowed to switch PrEP modalities (oral or injectable CAB-LA) once. A subset of participants who switched PrEP were invited to participate in a qualitative study. Semi-structured interviews were conducted, recorded and transcribed. Conventional content analysis was performed to explore motivations and gather insights regarding individuals' choices and transition experiences between PrEP modalities.

Results: Of 1,447 young SGM enrolled, 1,200 (83%) initiated injectable PrEP and 47 (3.2%) switched PrEP regimen: 26 from CAB-LA to oral and 21 from oral to CAB-LA. Twenty interviews were conducted with participants who switched modalities. Initial preference for oral PrEP was influenced by fear of needles and pain leading individuals to avoid injectable PrEP. Prior knowledge and accessibility of information about oral PrEP made it a familiar choice.

Conversely, participants who switched from oral to injectable PrEP reported adherence difficulties due to adverse side effects such as persistent nausea and headaches or frequent forgetfulness missing doses. These participants considered that injectable PrEP provided a more practical and consistent protection.

Despite potential benefits, transitions from injectable to oral PrEP were due to adverse reactions associated with CAB-LA such as persistent pain at the injection site, fever, chills, and other systemic symptoms. The second most common reason for transitioning to oral PrEP was long term travel.

Conclusions: Oral and injectable PrEP are perceived as effective options among young SGM in Brazil. Our findings emphasize the complexity of PrEP choice dynamics and highlight the need for personalized healthcare support for transitioning between PrEP options. Understanding personal experiences and needs is crucial for optimizing PrEP delivery and ensuring successful HIV prevention outcomes and adherence to initial choice.

THPED076

Learnings from community pilot implementation of MaPeers&Me digital application for HIV and drug harm reduction response among female sex workers who use/inject drugs in Abia State, Nigeria

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Background: In the Generation Z era, digital applications remains a powerful tool for transforming health services among young people hence Greater Women Initiative for Health and Right through the sex workers' community introduced the MaPeers&Me App. This innovative application facilitated onsite peer-to-peer navigation, provided digital appointment reminders, tracked medication adherence through drug consistency charts, and ensured anonymous service uptake in addressing long-term in-person HIV stigma.

The program's objectives include optimizing service delivery strategies, promoting a status-neutral approach to healthcare, and establishing a supportive digital community-based services for FSWUIDs.

Description: The MaPeers&Me App, a community-driven digital application, was developed and launched in January 2024 and remained operational through December 2024. Its primary goal was to enhance access to HIV prevention, care, and harm reduction services.

As a community-owned initiative, the app prioritized relevance, usability, and trust by integrating community participation, robust digital infrastructure, and partnerships with healthcare providers for its effectiveness.

Key activities conducted include co-creation socialization, digital peer navigators mentoring, peer-led healthcare connections, socializing harm reduction concepts through the app, creating HIV prevention social hubs, issuing appointment reminders, tracking drug adherence, and promoting U=U (Undetectable = Untransmittable) messaging.

Lessons learned: Key Findings and Outcomes:

- Over 74% of FSWUIDs reported better access to harm reduction and HIV services.
- Visits to One Stop Shop facilities rose by 48% among FSWUIDs, driven by consistent social engagement facilitated through the app.
- 88% of users felt empowered to seek services without fear of judgment, while drug adherence tracking charts improved consistency for 65% of users.

Lessons Learned:

- Actively involving the sex workers' community in the app's design and implementation ensured it was relevant, user-friendly, and trust while anonymous service uptake options effectively addressed fears of stigma/discrimination.

Best Practices:

- Combining digital tools with peer-led support created robust community network that tackled both structural and individual barriers faced by FSWUIDs.

Conclusions/Next steps: In summary, MaPeers&Me App pilot implementation showed the importance of community-driven and technology-enhanced programming in improving HIV and harm reduction services and the need for continued investment in innovative service delivery models for HIV response among FSWUID and key population at large.

THPED077

HIV Viewpoints: survey on the experiences of people living with HIV around the world

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Background: The experiences of people with HIV (PWH) differ significantly throughout the world and it is important to understand these experiences to enhance engagement in care and improve long-term treatment success.
Methods: A 45-minute, cross-sectional, online survey was co-developed by investigators and community advocates from 11 countries (Canada, France, Germany, Italy, Japan, Mexico, South Africa, Spain, Taiwan, United Kingdom, United States) and translated into local languages. The survey evaluated experiences of PWH across the care continuum. Participants ≥18y were recruited through patient databases, patient panels, advocacy groups, and physician referrals.
Results: Among 2307 participants, 96% were currently or had been on antiretroviral therapy (ART); 74% were taking 1 single-tablet oral daily ART. Treatment was initiated >30 days after diagnosis for 37% of participants (23% of those diagnosed <10 years ago and 55% of those diagnosed ≥10 years ago), primarily due to physician recommendation based on CD4 count, fear of potential side effects, and needing time to accept diagnosis.

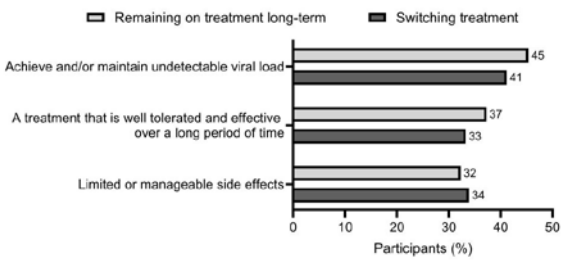


Figure 1. Top 3 treatment features (selected by ≥25% of participants) that would be most important in remaining on HIV treatment long term or switching HIV treatment.

Adherence difficulties were experienced by 14% of participants taking oral ART and 16% taking injectable ART. Features of HIV treatment identified as most important for staying on treatment long-term and for switching are shown in *Figure 1.*
Median HIV Treatment Satisfaction Questionnaire status version score was 51/60 overall and was numerically higher for those on bictegravir/emtricitabine/tenofovir alafenamide and those on treatment ≥10 years *(Table 1).*

Participants, n	HIVTSQ score, median
Overall, n=2128	51.0
Bictegravir/emtricitabine/tenofovir alafenamide, n=585	54.0
All oral regimens excluding bictegravir/emtricitabine/tenofovir alafenamide, n=1387	50.0
All regimens excluding bictegravir/emtricitabine/tenofovir alafenamide, n=1544	50.0
Participants on treatment ≥10 years, n=901	54.0
Participants on treatment <10 years, n=1227	50.0

Table 1. HIVTSQ Scores by Subgroup.

Conclusions: Participants reported high levels of ART satisfaction and identified treatment effectiveness, side effects, and long-term safety as top considerations for remaining on or switching HIV medication. The substantial proportion of participants reporting delayed treatment highlights opportunities to support/improve rapid initiation.

THPED078

Household HIV competence and illness identity in HIV: insights from a cluster randomized control trial baseline study

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Background: Illness identity in HIV; the extent to which HIV is integrated into a sense of self, can have a significant impact on health outcomes of people living with HIV. Incorporating HIV into a sense of self and identity can be influenced by the social context within which HIV is experienced. We hypothesized that when households are HIV competent, this can have a significant influence over the dimensions of illness identity; engulfment, rejection, acceptance and enrichment.
The study therefore aimed to explore the association between household HIV competence and illness identity in HIV.
Methods: Data for the current study was drawn from the baseline phase of the Sinako cluster randomized control trial. The Sinako study was set in five sub-districts of the Cape Metro health district in the Western Cape, South Africa. A total of 316 adults living with HIV, aged 18 to 65 (M_{age} = 35.49; 83% women) completed questionnaires eval-

uating the four illness identity dimensions; rejection, acceptance, engulfment, and enrichment and household HIV competence. Multiple regression with robust standard errors were conducted to assess associations between household HIV competence and illness identity, with the dependent variables engulfment, rejection, acceptance and enrichment regressed onto the independent variable household HIV competence while simultaneously controlling for gender, age and illness duration.

Results: We found evidence of an association between household HIV competence and the acceptance and rejection dimensions of illness identity in HIV. Higher household HIV competence levels were related higher acceptance and lower rejection scores. We found no evidence of an association between household HIV competence and enrichment nor household HIV competence and engulfment.

Conclusions: The degree to which households are HIV competent may have important ramifications for acceptance and or rejection in HIV. The findings of the current study thus suggest the crucial role of household HIV competence in illness identity in HIV, with important implications for support for people living with HIV, implementation of HIV programs and intervention research.

THPED079

Trauma-informed decision-making in HIV post-exposure prophylaxis: insights from sexual assault survivors' experiences

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Background: Sexual assault survivors are at increased risk of HIV, yet decision-making around HIV post-exposure prophylaxis (PEP) remains complex. This study explores the factors influencing PEP acceptance or declination in sexual assault care, highlighting trauma-informed approaches, health disparities, and systemic barriers. Trauma-informed approaches require providers to acknowledge and accommodate the influence of previous trauma on participants' attitudes, beliefs, feelings, and behaviors. Making decisions following a sexual assault can be challenging for participants. Exploring participants' experiences with healthcare visits can offer insight into HIV prevention strategies.

Methods: Semi-structured interviews captured participants' experiences with healthcare providers, understanding of HIV PEP, and reasons for their decisions. Data were analyzed to identify themes highlighting barriers, facilitators, and systemic inequities in PEP access and adherence.

Results: This qualitative study included 42 sexual assault survivors seeking care within the 72-hour PEP window. Survivors cited prevention as a motivator, emphasizing trust in providers and clear communication. A participant shared, "I trusted what they said...if I took it within 48 hours, it would work" (African American female, insured). Barriers included fear of side effects, financial constraints, and perceived low risk of HIV exposure. A participant noted, "The cost wasn't feasible, and I couldn't use my parents' credit card without them knowing" (Hispanic female, uninsured).

Participants who felt coerced by providers described heightened trauma. For example, one stated, "They said, 'You need to take this or you'll get AIDS and die,' and I just wanted to leave" (White female, insured).

Theme	Quote	Demographics
Stigma and Fear	"It felt like taking the medication meant admitting to something shameful, even though I didn't do anything wrong."	Black female, insured
Stigma and Fear	"It was pretty scary 'cause there was a lot of folks around... I didn't want everyone knowing my business."	White female, employed, insured
Stigma and Fear	"In the beginning, I wanted to keep it private... I didn't want anybody to know because I was embarrassed."	White female, employed, insured
Provider Influence	"The doctor said, 'If you don't take this, you'll get HIV,' and it made me feel like I was dirty or already infected."	White female, insured
Provider Influence	"They just said just follow what the specialist says, because if you don't, you could catch something that you might not know how to handle."	White male, employed, insured
Provider Influence	"I guess I mean more extensive details and information... I don't even know what it really was treating."	White male, employed, insured
Perception of Risk	"I've never been with someone who uses drugs or prostitutes, so I didn't think it was something I had to worry about."	Hispanic female, employed
Perception of Risk	"He told me he had a family and kids, so I thought he wasn't the type to give me anything."	White female, insured

Table 1: Key Themes in HIV PEP Decision-Making.

Conclusions: Findings underscore the need for trauma-informed, survivor-centered care to improve PEP uptake and reduce disparities. Addressing systemic barriers such as cost and improving provider communication can empower survivors to make informed decisions.

These insights inform differentiated HIV prevention strategies that prioritize equity and respect survivors' autonomy, contributing to improved care protocols and public health outcomes.

THPED080

Trends in HIV testing and risk behaviors among adolescent boys and young men in Kenya: a pseudo-longitudinal analysis

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Background: Adolescents and young men (ABYM) in sub-Saharan Africa (SSA) face a face significant HIV risk, yet prevention efforts are often hindered by limited data disaggregation and tailored interventions.
This study investigates trends in HIV testing, awareness, and risk behaviors among ABYM in Kenya using data from the 2014 and 2022 Kenya Demographic and Health Surveys (DHS).
Methods: This pseudo-longitudinal study analyzed data from 2014 and 2022 DHS sub-samples of ABYM aged 15–24 years. Key variables included socio-demographics, HIV testing history, awareness of HIV prevention strategies, and behaviors that influence HIV acquisition. Descriptive statistics were used to compare trends, while logistic regression identified factors associated with HIV testing and condom use across survey years.
Results: Data from 4,657 participants in 2014 and 5,455 in 2022 revealed a decline in HIV testing rates among ABYM. Testing prevalence dropped from 72.1% (young men) and 39.9% (adolescents) in 2014 to 44.5% and 27.9%, respectively, in 2022 ($p<0.001$). Condom use during the most recent sexual encounter also decreased but remained higher among young men (2014: 88.0%; 2022: 85.7%) compared to adolescents (2014: 79.7%; 2022: 77.4%).
Key predictors of HIV testing and condom use were consistent across survey years. Young men were significantly more likely to test for HIV compared to adolescents (2022: aOR = 3.49, 95% CI: 3.07–3.96; $p < 0.001$; 2014: aOR = 3.12, 95% CI: 2.73–3.58; $p < 0.001$). Education emerged as a critical factor, with higher education strongly associated with HIV testing and condom use. In 2022, individuals with higher education were nearly 7 times more likely to test for HIV (aOR = 6.72; 95% CI: 3.81–11.87; $p < 0.001$). Media exposure, particularly watching television, became an increasingly significant predictor of HIV testing in 2022 (aOR = 1.35; 95% CI: 1.15–1.59; $p < 0.001$).
Conclusions: Declining HIV testing rates among ABYM in Kenya, despite high awareness, highlight the need for targeted interventions. Tailored interventions focusing on adolescents, leveraging education, and integrating media-driven outreach are essential to mitigate HIV risk and close testing gaps in this population.

THPED081

Intimate partner violence and determinants of HIV seroconversion among female caregivers in KwaZulu-Natal, South Africa: insights from the Asenze Cohort longitudinal study

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Background: HIV disproportionately affects women in South Africa, with intimate partner violence (IPV) being a key contributor to HIV acquisition. While most research has focused on pregnant women and adolescent girls, caregiving women remain understudied, and few studies have examined multiple IPV types or their associations with HIV seroconversion.
This study examines longitudinal associations between IPV exposure and HIV seroconversion among caregiving women in KwaZulu-Natal, South Africa.
Methods: Data were drawn from the Asenze Study, involving 580 female caregivers followed over three waves. Participants underwent HIV testing or self-reported status at baseline (Wave 1 [W1]; 2008-2010) and follow-up (Wave 3 [W3]; 2019-2021), completing measures of IPV, sociodemographics, mental health, and alcohol use at W1. IPV types included physical, sexual, and threatening violence from current or other partners. Analyses compared women living with HIV (WLHIV) versus HIV-negative at W1 and women who seroconverted by W3 versus those remaining HIV-negative, using chi-square and t-tests.
Results: At W1, the mean age of participants was 34.8 years, with WLHIV significantly younger than HIV-negative women (32.4 vs. 35.6 years, $p = 0.003$). No significant differences were found in education or household assets between groups. Overall, 42% reported experiencing any IPV at W1. WLHIV were more likely to report threatening IPV (34% vs. 23%, $p=0.005$) and experiencing multiple IPV types (32% vs. 23%, $p = 0.029$). Of the participants HIV-negative at W1, 75% (n = 322) remained HIV-negative by W3, while 22% (n = 93) seroconverted. This resulted in 42% of the overall sample (n = 242/580) being WLHIV and 56% (n = 322) remaining HIV-negative by W3. At W3, there were no significant differences in baseline (W1) IPV exposure between women who seroconverted and those remaining HIV-negative. Women who seroconverted were younger (28.2 vs. 37.8 years, $p >0.001$) and more likely to report hazardous drinking (13% vs. 3%, $p<0.001$).
Conclusions: HIV seroconversion was high in this sample, even in a South African province with scaled-up ART and PrEP access, suggesting women are not fully benefiting. Multiple types of IPV were prevalent. The lack of association between baseline IPV and seroconversion suggests additional sociobehavioral and structural factors drive HIV acquisition.

Social, cultural, political, legal, environmental and structural determinants of health in different contexts

THPED082

Associations of multilevel social determinants of health with HIV care continuum outcomes among persons in HIV care in Baltimore, Maryland, United States

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Background: Studies of how social determinants of health (SDoH) affect HIV care continuum outcomes are often limited to individual-level or contextual SDoH. We examined the associations of multilevel SDoH with care outcomes in a longitudinal clinical cohort in the United States.

Methods: We included Johns Hopkins HIV Clinical Cohort participants alive and in care on December 31, 2022. We captured 5-year histories of income, housing stability, incarceration, insurance type, and residential address geocoded to census block groups (i.e., neighborhoods), which we used to measure residential mobility and area socioeconomic deprivation.

We estimated associations of each SDoH with the probabilities of death, missing a scheduled visit, not having a viral load (VL) measurement, and having a non-suppressed VL result (HIV-1 RNA >200 copies/mL) in 2023.

Results: Of 1,764 participants, 2.2% died, 46.0% missed a scheduled visit, 9.9% did not have a VL measurement, and 7.5% had a non-suppressed VL result in 2023. Adverse SDoH were strongly associated with death, missed visits, and non-suppressed VL (Table).

		Probability of Death		Probability of Missing Scheduled Visit(s)		Probability of Not Having a Viral Measurement		Probability of a Non-Suppressed Viral Load Result	
	N (%)	%	Difference (95% CI)	%	Difference (95% CI)	%	Difference (95% CI)	%	Difference (95% CI)
Income									
>300% Federal Poverty Level	568 (32.2)	1.1	ref.	23.6	ref.	13.2	ref.	4.5	ref.
≤300% Federal Poverty Level	1,196 (67.8)	2.7	1.6 (0.4, 2.9)	56.6	33.0 (28.5, 37.5)	8.3	-4.9 (-8.1, -1.7)	8.8	4.4 (1.9, 6.9)
Housing Status									
Stable	1,595 (90.4)	2.0	ref.	43.6	ref.	9.8	ref.	6.4	ref.
Unstable	169 (9.6)	3.6	1.5 (-1.3, 4.4)	68.1	24.4 (17.0, 31.9)	10.7	0.9 (-4.0, 5.7)	17.9	11.5 (5.6, 17.7)
Mobility									
≤1 Moves in Past 5 Years	1,321 (74.9)	2.3	ref.	41.3	ref.	9.0	ref.	6.1	ref.
≥2 Moves in Past 2 Years	443 (25.1)	1.8	0.5 (-1.0, 1.9)	60.1	18.8 (13.5, 24.1)	12.4	3.4 (0, 6.8)	11.9	5.8 (2.3, 9.3)
Area Deprivation	533								
80% Least-Deprived	(30.2)	0.9	ref.	28.7	ref.	8.8	ref.	4.5	ref.
20% Most-Deprived	1,231 (69.8)	2.7	1.7 (0.5, 3.0)	53.5	24.8 (20.0, 29.5)	10.3	1.5 (-1.5, 4.5)	8.8	4.3 (1.8, 6.8)

Table.

For example, participants with a 5-year history of low income were 33 percentage points more likely to miss a scheduled visit (95% CI 28.5, 37.5), and those with a history of unstable housing were 11.5 percentage points more likely to have a non-suppressed VL result (95% CI 5.6, 17.7). Low income and residing in a socioeconomically deprived neighborhood were independently associated with poor outcomes: e.g., the probability of missing a scheduled visit was 20.4 percentage points higher among low-income residents of the most-deprived vs. less-deprived neighborhoods, and 12.5 percentage points higher among high-income residents of the most-deprived vs. less-deprived neighborhoods.

Conclusions: Both individual-level and contextual SDoH are strongly associated with HIV care continuum outcomes in a large urban cohort in the United States. Multilevel interventions may be needed to achieve target levels of viral suppression, especially in structurally resource-deprived communities.

THPED083

The role of law enforcement in reducing HIV and HCV risk among PWUDs in Rwanda

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Background: People who use drugs (PWUDs) are at high risk of acquiring Human Immunodeficiency Virus (HIV) and hepatitis C virus (HCV) due to behaviors such as needle sharing and unprotected sex. Law enforcement practices significantly influence harm reduction efforts by shaping access to prevention services and play a key role in shaping the health outcomes of PWUDs.

This study evaluates the role of law enforcement in mitigating HIV and HCV risks among PWUDs in Rwanda, emphasizing the importance of collaborative, harm-reduction approaches.

Methods: A cross-sectional study was conducted using survey data in 2024 from 1,114 PWUDs self-reported users in 10 districts of Rwanda. Participants were recruited through respondent-driven sampling (RDS). Multivariable logistic regression using key variables like police confiscation injection equipment in 12 months, needle needle-sharing frequency in the last month, HIV test consent, ever tested for HIV, ever tested for HCV, HIV status, HCV status was used to assess the association between law enforcement practices, reduced HIV/HCV risk behaviors and improved health outcomes among PWUDs.

Results: Punitive law enforcement, such as arrests and equipment confiscation, drives higher-risk behaviors and increased needle sharing (aOR 1.89, 95% CI 1.31-2.73, p = 0.002), highlighting its adverse health impact. However, positive law enforcement, such as harm reduction services, significantly reduces risky behaviors among PWUDs (adjusted odds ratio [aOR] 0.42, 95% CI 0.28-0.62, p < 0.001) and increased HIV testing uptake (aOR 2.15, 95% CI 1.67-2.76, p < 0.001).

Conclusions: The findings show that law enforcement, public health, and harm reduction can significantly reduce HIV and HCV risk behaviors among PWUDs. Law enforcement should prioritize harm reduction approaches, such as referring individuals to health services instead of confiscating injecting equipment. Programs addressing needs among PWUDs can indirectly reduce risky behaviors by improving access to clean equipment and healthcare.

THPED084

Social determinants of mental health outcomes among refugee adolescents and youth living with HIV in refugee settlements in Uganda: a cross-sectional analysis

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Background: Although the prevalence of mental disorders is high among conflict-affected populations, the extent to which social determinants impact the mental health of conflict-affected youth living with HIV is not well studied. Uganda is the top refugee receiving country in sub-Saharan Africa (SSA), currently hosting nearly 1.8 million refugees. Many of these refugees come from countries mired in protracted armed conflicts.
Given the complex interplay between conflict, HIV and mental disorders, the objective of this study was to investigate how social determinants impact the mental health of conflict-affected youth living with HIV in Uganda.
Methods: We analyzed cross-sectional data from a two-year cluster randomized clinical trial (RCT) among youth (ages 13 – 30). The youth were recruited between July and December 2023 from 20 health centers in three refugee settlements. We summarized the descriptive statistics using frequencies and percentages for the categorical variables and means and standard deviations for the continuous variables.
To examine the association between the selected predictors and the mental health outcomes, we fitted a separate mixed-effects linear regression model for each outcome including depression, hopelessness, and PTSD. Based on the structure of the data where the participants were clustered in health clinics, there was more than one source of variance in the outcomes—that is, participant level and clinic level variance.
Results: HIV-related stigma (β = 0.04, 0.01 – 0.07; p = 0.012) and PTSD (β = 0.29, 0.16 – 0.43; p = <0.001) were associated with increased depressive symptoms. Similarly, unemployment (β = 2.39, 0.65 – 4.13; p 0.007), HIV-related stigma (β = 0.20, 0.09 – 0.31; 0.001) and PTSD (β = 1.55, 0.84 – 2.26; p < 0.001) were associated with hopelessness. Good physical health (β = -0.53, -1.00 – 0.06; *p* = 0.028) and school enrollment (β = -0.94, -1.3 – 0.50; *p* <0.001) were associated with lower PTSD symptoms.
Conclusions: This study found that social determinants including school enrollment, double orphanhood, HIV-related stigma, poor physical health, and poverty related factors like unemployment are important predictors of poor mental health among refugee youth living with HIV, underscoring the need for multilevel approaches to address these challenges.

Community-engaged/participatory social science-based interventions

THPED085

Perspectives of partners and families on the psychosocial impacts of analytical treatment interruptions in HIV cure research in Durban, South Africa

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Background: Analytical treatment interruptions (ATIs) are a critical component of HIV cure trials, permitting assessment of interventions designed to induce ART-free virologic control. However, ATIs pose risks related to viral rebound and psychosocial impacts that extend beyond trial participants to members of their support network. Partners and family members provide ATI trial participants with much needed emotional and practical support, yet their ATI experience is rarely considered.
This study assessed the experience of partners and family members of ATI trial participants in HIV high-prevalence KwaZulu-Natal, South Africa.
Methods: We conducted a qualitative study between February 2023 and April 2024, interviewing ten partners and family members of young women enrolled in an ATI-inclusive HIV cure trial at the Females Rising through Education, Support, and Health (FRESH) site in Durban, South Africa. Interviewees were contacted after consent from ATI participants.

We transcribed, translated, and analyzed in-depth interviews using conventional content analysis, guided by principles of community-based participatory research and relational theory.

Results: Five male partners (two living with HIV and three without), and five family members (two sisters, two mothers, and one cousin) completed in-depth interviews. Hope from advancement of HIV cure science was countered by concerns about viral rebound risks, emotional strain, and stigma. A desire for clear trial information and provision of psychosocial support was conveyed.

Strengthened communication and emotional bonds were reported as relational benefits from the ATI. Partners without HIV valued access to pre-exposure prophylaxis (PrEP) but reported inconsistent use. Partners with HIV also experienced ATI-related stress. Family members advocated for open dialogue but felt ill-equipped to explaining ATIs within their communities.

Conclusions: This study provides unique insights into the experiences of partners and family members of participants enrolled in an ATI-inclusive HIV cure trial. Understanding the extent of ATI impact beyond trial participants is an ethical responsibility. Inconsistent PrEP use underscored the need for additional support and acceptable partner protection options.

Incorporating relational considerations into ATI-inclusive protocols acknowledges both cultural context and the important role of trial participants' existing support networks. Broader participant-considerations may prove invaluable toward improving ATI-trial uptake, retention, risk mitigation and success.

THPED086

Transforming paediatric HIV care in Tanzania: a community-centered and data-driven success story of advocacy

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Background: An innovative community-led monitoring (CLM) initiative in Tanzania, implemented across nine PEPFAR-supported regions, is transforming pediatric HIV care by integrating communities into the healthcare process. The program engages 11 community-led organizations to identify and address key barriers such as pediatric ARV shortages, delays in early infant diagnosis (EID), malnutrition, and inconsistent follow-up care for children living with HIV (CLWHIV). By leveraging data collected directly from the communities, the initiative enhances the quality and accessibility of pediatric HIV services.

This community-centered, data-driven approach builds a sustainable, tailored response that reshapes pediatric HIV care and improves the overall healthcare delivery for CLWHIV.

Description: From October 2023 to September 2024, the program actively engaged 80 parents and caregivers of CLWHIV as community monitors. These individuals received training to identify gaps in care, such as ARV shortages, delays in EID, insufficient nutritional counseling, and inadequate psychosocial support.

Targeted interventions included strengthening supply chain management to reduce ARV stockouts, deploying additional EID machines to shorten result turnaround times from 50 to 14 days, delivering nutritional counseling to 620 caregivers, and forming psychosocial support groups for 310 participants. These efforts, guided by real-time data, significantly enhanced service delivery and care outcomes.

Lessons learned: The results underscore the effectiveness of community-driven solutions. ARV shortages were reduced by 85%, ensuring consistent treatment availability in 90% of facilities. Faster EID processing enabled quicker treatment initiation, while nutritional counseling improved caregivers' practices and health outcomes for CLWHIV. Psychosocial support groups increased treatment adherence rates by 25% and reduced stigma within families and communities. These achievements provide a replicable and scalable model for improving pediatric HIV care.

Conclusions/Next steps: This initiative demonstrates that empowering communities and effectively leveraging data can drive transformative change. Expanding the CLM model nationwide, coupled with continued investments in supply chain systems and caregiver support, is essential for sustaining progress.

This success story offers a blueprint for integrating community engagement into policy frameworks, fostering collaboration, and advancing healthcare equity for CLWHIV across Tanzania.

THPED087

Empowering traditional health practitioners to address HIV/AIDS, TB, and STIs: a community-driven training and engagement model

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Background: Traditional Health Practitioners (THPs) play a crucial role in providing primary healthcare support in rural communities, where access to formal healthcare services is often limited. However, many THPs lack adequate training to address critical health challenges such as HIV/AIDS, TB, and STIs.

This initiative aimed to develop and evaluate a tailored, community-driven training model to equip THPs with essential knowledge and practical tools. The inclusion of THPs who are TB survivors as peer educators aimed to reduce stigma and foster supportive healthcare environments.

Description: Conducted over a 12-month period across 15 rural communities with high TB and HIV prevalence, the intervention employed a participatory approach involving dialogue-based workshops and mentorship sessions. A total of 203 THPs were engaged through structured training modules covering TB, HIV, STIs prevention, treatment and management.

Pre and post-training assessments were conducted to evaluate changes in knowledge, attitudes, and practices, while qualitative data was collected through in-depth interviews and focus group discussions.

The training modules incorporated culturally relevant content and were co-designed with healthcare professionals and community stakeholders to ensure alignment with public health objectives.

Lessons learned: The intervention led to a 63% increase in THPs' knowledge scores, with 92% of participants demonstrating improved confidence in discussing and managing TB and HIV-related cases. Stigma reduction efforts were successful, as evidenced by a 77% increase in THPs' willingness to disclose their TB status and encourage healthcare clients to seek formal care.

Additionally, 81% of THPs reported integrating the acquired knowledge into their daily practice, leading to improved healthcare clients' counseling on holistic health support, including nutrition and mental health. Peer-led sessions emerged as a critical factor in enhancing trust and engagement.

Conclusions/Next steps: The community-driven training model has demonstrated significant success in equipping THPs with the necessary skills to address major health challenges within their communities. Scaling this model to other regions could enhance the role of THPs in the healthcare continuum and further strengthen community resilience.

Future efforts should focus on integrating digital learning platforms and developing advanced modules tailored to evolving community health needs.

THPED088

Empowering key populations: the impact of kp-led civil society organizations on health access, stigma reduction and community resilience in Kitui, Kenya

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Background: Key populations (KPs), including female sex workers and men who have sex with men are disproportionately affected by HIV/AIDS due to systemic marginalization that limits their access to health and social services. Community-led approaches including Key Population-led Civil Society Organizations (KP-led CSOs), are recommended in advocating for rights and empowering the KP community to access HIV prevention services and control the HIV/AIDs epidemic. We describe involvement of KP-led CSOs and its impact on reach, retention, and uptake of HIV prevention services.

Description: In collaboration with the County Health Management team, we engaged KP-led CSOs in Kitui County to scale-up reach of new (yet to be reached) KPs, uptake of HIV of pre-exposure prophylaxis (PrEP), and retention in HIV prevention services. The CSOs were actively involved in engagement of peer-educators and management of the peer education and outreach activities through strengthening structural and behavioral interventions, aimed at mobilizing their community to access HIV prevention services including PrEP at the KP- friendly drop-in centers.

We compared before (October 2021 – September 2022), and after/during (October 2022 to September 2023) periods to identify significant changes associated with involvement of CSOs.

Lessons learned: The total number of KPs newly reached increased from 776 (383 FSWs and 393 MSM) before engagement to 1727 (735 FSWs and 992 MSM). Retention rates significantly improved among both typologies: from 39% to 79% among FSWs ($t(11) = 15.67$, $p < 0.001$) and from 45% to 67% among MSM ($t(11) = 9.45$, $p < 0.001$).PrEP uptake among newly reached MSM increased significantly from 21% to 67% ($t(11) = 3.988$, $p = 0.002$), whereas no significant change was observed in PrEP uptake among newly reached FSWs. The mean number of FSWs reached increased from 31 to 61 post-CSO engagement, showing statistical significance ($t(11) = 2.305$, $p = 0.042$).

However, there was no significant change in the mean number of MSM reached before and after CSO involvement

Conclusions/Next steps: Meaningful engagement of KP-led CSOs through collaborative capacity building positively impacts reach, service uptake, and retention of KP in HIV prevention service

THPED092

Effectiveness of the Buddy system on treatment outcomes and viral load suppression among children and young people living with HIV (CYPLHIV) aged 15-24 years at Mpilo Centre of Excellence

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Background: Records review at Mpilo Centre of Excellence revealed poor ART outcomes and low viral load suppression (VLS) in 2021 among Children and Young People living with HIV (CYPLHIV) aged 15-24 years. CYPLHIV experienced high defaulter and/or lost to follow up rates and low levels of returnees to care. Ministry of Health and Child Care, National AIDS Council and AHF Zimbabwe in partnership with the Million Memory Project Zimbabwe in designed and implemented a peer-led intervention, Buddy System, from 2022 to 2023 to improve treatment outcomes and VLS among CYPLHIV.

Description: Million Memory Project Zimbabwe (MMPZ) introduced a programming approach guided by the ecological model concept with a particular bias to Peer-Led Interventions including the buddy system to support monitoring of viral load suppression among children and

young people living with HIV aged 10 - 28 years in Mpilo Hospital. The MMPZ initiative sought to enhance health outcomes for children and young people by delivering comprehensive healthcare and support services.
This approach involves the participation of everyone in the child's life, fostering a responsive and supportive environment. The system supported the care for CYPLHIV through peer training, peer-led support groups, Youth Friendly Room, health education and resources, community outreach, defaulter tracking, experiential learning and self-care.
Lessons learned: Peer-led interventions were youth friendly and effective in improving treatment outcomes and viral suppression outcomes among CALHIV at Mpilo Centre of Excellence. Retention in care among CYPLHIV improved; with a significant increase in proportion of active patients in care from 89% (2,653) in 2021 to 97% (3,304) in 2023 ($\chi 2$ =170.9, p=0.00). Viral load suppression significantly improved from 83% (1,925) in 2021 to 88% (2,529) in 2023 ($\chi 2$ =22.0, p=0.00). CYPLHIV who participated in the interventions felt more motivated to take their medication, attend clinic appointments, disclose their status to others, and adopt a healthy lifestyle.
The participants reported that peer supporters played a significant role in providing emotional support, encouraging them to adhere to medication, and helping to address stigma and discrimination they encountered.
Conclusions/Next steps: The best practice showed a need to scale up and prioritise peer led interventions to other health facilities in Zimbabwe.

THPED094

Leveraging Community-Led Monitoring (CLM) to enhance HIV service delivery and accountability in Nigeria

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Background: Achieving the goal of ending HIV and AIDS by 2030 requires community involvement in holding health systems accountable. Community-Led Monitoring (CLM), an intervention under Nigeria's Global Fund GC7 grant and led by the Network of People Living with HIV/AIDS in Nigeria (NEPWHAN), which empowers the communities across 13 States in Nigeria to assess and monitor service delivery, identify gaps, and advocate for actionable solutions. CLM leverages routine data collected at the community level, translates these data into actionable insights to inform policies, practices among implementing partners, aiming to improve the quality-of-service delivery.
Description: A cross-sectional descriptive study was conducted from January to June 2024 in 13 states where NEPWHAN implements CLM. Quantitative data were collected using the community iMonitor mobile application, while qualitative data was from focus group discussions. Quantitative data from the app were analyzed using IBM SPSS Statistics 23 while qualitative data was analyzed using inductive thematic analysis.
Lessons learned: A total of 17,657 responses were recorded from the app and 6 focus group discussion sessions with 6 participants each were conducted across the 13 states. 81.9% (14,478), 10% (1766) and 8% (1413) of the responses were from People Living with HIV (PLHIV), Key Population; and adolescent and young persons (AYP) respectively. The top three challenges reported from the app were access to mental health services 8459 (47.9%), access to legal services 7926 (44.8%) and stock-out of condoms and lubricants 938 (5.3%) The qualitative data focused on 4 themes which are barriers to treatment, quality of care, availability of commodities, gender and human rights. Major challenges included lack of nutritional support, stock-out of condoms and lubricants, and lack of access to mental health and legal services.
Conclusions/Next steps: Community Led monitoring as an intervention is a critical tool for improving person-centered care and service quality for PLHIV, the key and vulnerable population. Addressing the identified issues through targeted interventions and engaging policymakers with actionable data is essential in achieving epidemic control and ending AIDS by 2030.

THPED095

Strengthening links: open days and guided tours for adolescents and young women (AGYW), the community, and healthcare providers

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Background: Inadequate preparation on sexuality, gender norms, and reproductive health makes Adolescents Girls and Young Women (AGYW) vulnerable to abuse, unwanted pregnancies, and Sexually Transmitted Infections (STIs), including HIV. Individuals aged 15-24 account for 45% of new HIV infections, primarily due to lack of information about available healthcare services.
Since 2018, OGRADIE, supported by USAID/PEPFAR through the DREAMS Soungourou Farima project, has implemented open days and guided tours in healthcare centers in the districts of Cocody-Bingerville to strengthen access to information and foster connections between AGYW and healthcare providers.
Description: Three months after the start of Comprehensive Sexual Education (CSE) sessions, which aim to provide AGYW with information on sexuality, sexual rights, and reproductive health, open days and guided tours are organized in safe spaces and healthcare facilities. During open days, Mentors, Ambassadors, and Facilitators run stands to present the various DREAMS program interventions and address the concerns of AGYW ,s parents and guardians.

During the guided tours, Mentors and Supervisors accompany AGYW through health centers, where medical staff present the services available. These visits allow AGYW to become familiar with healthcare services and build trust with healthcare providers.

Lessons learned: From 2018 to September 2024, 81,577 AGYW identified by the project benefitted from the social asset-building program. Analysis showed that over 80% of AGYW accessed healthcare services based on their needs. A total of 92,374 AGYW were referred to these services, contributing to a reduction in risk behaviors, stigma within the community, and healthcare settings. The relationships between AGYW and healthcare providers have been strengthened, leading to better care for AGYW.

Conclusions/Next steps: These initiatives strengthen relationships between AGYW, healthcare providers, and the community, while reducing health risks. By September 2025, the project aims to reach 38,010 AGYW. To ensure maximum coverage, the next steps include geographic expansion and intensifying awareness campaigns.

THPED097

Acceptability of a peer-led STI screening model among females using PrEP at a peri-urban public health facility in South Western Uganda

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Background: Screening and management of sexually transmitted infections is an integral component of a person-centered HIV prevention program. The ministry of health recommends provision of routine syndromic screening for and timely linkage to STIs treatment within PrEP services. STI screening coverage was less than 14.2% at a health center due to several barriers. We describe a mixed methods study to assess the acceptability of peer-led STI screening intervention among female PrEP users.

Methods: We piloted a peer-led STI screening intervention among female PrEP users at a peri-urban public health facility in South Western Uganda. The facility focal person identified and oriented five peer leaders on syndromic STI screening and linkage for management. We conducted individual structured and semi-structured interviews based on the theoretical framework for acceptability. We used systematic random sampling recruit peer beneficiaries for individual interviews and purposive sampling to enroll peer leaders and facility health-workers for qualitative inquiry. Participant language, time preferences were considered in scheduling interviews. We used summarized quantitative data as medians and frequencies; and conducted thematic analysis for qualitative responses. We obtained ethical approval for the study.

Results: A total of 120 Peers were reached by the peer leaders. Of these beneficiaries, 78, all female of the age range 18 to 24 years (62.9%). We also received responses from 06 health facility staff and all PrEP service providers for the qualitative inquiry. Of the screened 90/122 (62.5%) reported this was their first time being screened for STI, 70/122 (58.33%) had symptoms for more than a month without care. 112/120 (93.33%) perceived intervention would have positive effects.

It was noted 51/120 (42.5%) of the respondents opted for self-medication of suspected STI without confirmed diagnosis/prescription. 98/120 (81.67%) responded that the model is highly acceptable, 22/120 (18.33%) found it somewhat acceptable, there was no disagreement with the intervention being acceptable to the community. 120 peers were in support of integrating STI screening into their PrEP services.

Conclusions: Peer-led STI screening is acceptable among female PrEP users. This model can be used to increase coverage of STI screening and timely management. We recommend additional studies to evaluate the effectiveness and cost-effectiveness of the model.

THPED098

Advanced HIV disease among Vulnerable populations living with HIV accessing HIV services at 2 wellness centers in Livingstone

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Background: Advanced HIV Disease (AHD) remains a significant public health concern in Zambia with the overall prevalence among people living with HIV at 7.0% (CI: 5.7–8.5%) in 2021. Vulnerable Populations (VPs) face heightened risk of AHD due to stigma, criminalization, and limited access to health services. Defined by a CD4 count <200 cells/μL or the presence of opportunistic infections (WHO stage 3 or 4) AHD increases morbidity and mortality among VPs.

We analyzed routinely collected data on CD4 counts among newly identified HIV-positive individuals and clients re-engaging in HIV care.

Methods: Retrospective review of clinical records from Mahatima Gandhi and Maramba KP Wellness Centers was conducted from January through December 2024. The population included VPs newly diagnosed with HIV or re-engaging in care after prior disengagement.

We summarized the data using frequencies and relative frequencies. A chi-square test was used to test for association between AHD and social demographic characteristics. Statistical significance was set at p-value 0.05 and all data analysis was conducted using Stata version 18.

Results: A total of 261 VPs had valid CD4 count results recorded with median 253 (IQR :75-490) cells per cubic millimeter; 164 (62.8%) were female. Most KP living with HIV, were aged between 25 and 35 years 190 (72.8%), and the

majority (62%) of KP clients were treated at Maramba facility. There were 97 (37.2%) female sex workers (FSW), 94 (36%) and men who have sex with men (MSM), 44 (16.9%) people who inject drugs, and 26 (10%) vulnerable persons.

The prevalence of AHD among KP in Livingstone district was estimated at 40.6% (95% CI 34.6% - 46.84%). Prevalence of AHD was higher at Maramba facility (54%) compared to Mahatma Gandhi (18.2%) with a p-value of <0.001. The occurrence of AHD was not related to sex, age, or VPs type.

Conclusions: The high prevalence of AHD among VPs in Livingstone highlights persistent health challenges. These findings emphasize the importance of addressing structural barriers and optimizing care for vulnerable populations. Strengthening access to early HIV diagnosis, comprehensive care, tailored support services for VPs is critical to reducing AHD-related morbidity and mortality.

Key populations and other vulnerable populations: Behavioural, social, cultural, structural and multilevel issues, contexts and interventions

THPED099

Prevalence of Mpox virus among men who have sex with other men in Kenya

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Background: Mpox virus, a zoonotic disease caused by the monkeypox virus, has seen a global resurgence in recent years, particularly affecting men who have sex with men (MSM). In Kenya, where MSM communities face social stigma and barriers to healthcare, there is limited data on the prevalence of mpox virus. This study aimed to determine the prevalence of mpox virus among MSM in major Kenyan cities (Nairobi, Mombasa, and Kisumu) and to explore associated risk factors.

Methods: A cross-sectional study was conducted between July and November 2024 in Nairobi, Mombasa, and Kisumu. A total of 500 MSM were recruited through community-based organizations. Participants were surveyed about sociodemographic characteristics, sexual behaviors, and prior healthcare access. Blood and lesion samples were collected and tested for mpox virus using PCR and serological assays. Descriptive statistics, chi-square tests, and logistic regression were applied to determine prevalence and associated factors.

Results: Of the 500 MSM participants, 6.4% (32/500) tested positive for active mpox virus infection. The prevalence varied by city: Nairobi (7.8%), Mombasa (5.1%), and Kisumu (4.3%). The median age of participants was 30 years (range 18-55 years). High-risk sexual behaviors, such as multiple sexual partners (OR=2.45, p<0.05) and unprotected anal sex (OR=3.12, p<0.01), were significantly associated with higher odds of infection. A history of recent travel or contact with known cases of mpox was reported by 12% of those infected. No significant difference in prevalence was found based on HIV status or condom use.

Conclusions: The study reveals a concerning prevalence of mpox virus among MSM in urban centers of Kenya, with sexual behaviors and recent exposure playing key roles in transmission.

These findings highlight the need for targeted public health interventions, including education, testing, and vaccination programs, to mitigate the spread of mpox among at-risk populations in Kenya. Further research is necessary to understand the full scope of mpox in this community and its relationship with other sexually transmitted infections.

THPED100

Developing a comprehensive framework to address chemsex and HIV in Southeast Asia: insights from a regional forum

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Background: Chemsex or sexualized drug use in many Asian countries is driving HIV transmission, among key populations (KPs). Programs have been ineffective or ill-equipped to provide HIV services to this group because of stigma and discrimination against people who engage in chemsex, punitive drug policies, and a lack of engagement with this population in designing services.

There is an urgent need for consensus on interventions and components of a comprehensive package of chemsex harm reduction and HIV services, particularly tailored to the needs of KPs who are already stigmatized and in settings where increasingly punitive approaches to drug policy are taking root.

Description: In May 2024, we convened a forum of 20 participants from Thailand, Cambodia, Vietnam, and Singapore. Participants included representatives from community-based organizations, healthcare providers, policymakers, government officials, and academic researchers. They discussed research evidence and data from successful programs reaching chemsex users and providing HIV services.

Lessons learned: Participants agreed on a comprehensive framework to guide chemsex harm reduction and HIV interventions, addressing gaps in prior models that paid limited attention to the unique needs of transgender women in chemsex contexts. The framework emphasizes intersectional stigma and gender-specific approaches for men who have sex with men, transgender women,

and young KPs. With principles of being people-centered, gender-affirming, inclusive, and sex-positive, it integrates substance-related harm reduction, sexual health, social and legal aspects, and mental health, while prioritizing broader outcomes, including improved overall well-being.

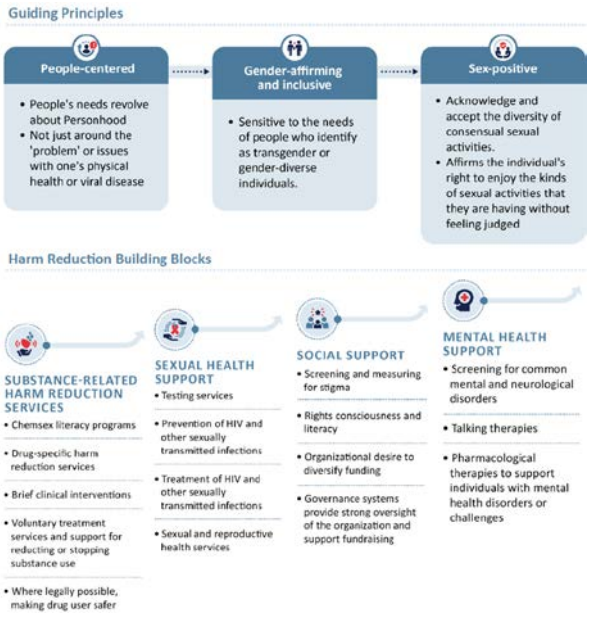


Figure 1. Lessons Learned from Regional Forum on Chemsex Interventions.

Conclusions/Next steps: We believe that this comprehensive framework, constructed from an inclusive forum, should guide on-going programming, capacity building, and policy efforts towards the health of chemsex users. We advocate for improvements in the policy environment around chemsex, inclusive program design processes, and more resources to expand people-centered services at the community level.

THPED101

Harnessing technology to address HIV prevention, treatment, and unplanned pregnancies in Kenya, Uganda and South Africa

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Background: Adolescent girls and young women (AGYW) in sub-Saharan Africa, aged 15-24, remain highly vulnerable to both HIV acquisition and unplanned pregnancies. In 2022, AGYW represented 50% of unplanned pregnancies and 67% of new HIV infections. Addressing HIV prevention and reducing unplanned pregnancies among AGYW is crucial to eliminating both challenges. Achieving the UN 95-95-95 targets by 2030 requires innovative approaches to tackle HIV and unplanned pregnancies remain an unmet need. Tiko Africa uses technology to identify and connect AGYW with youth-friendly, stigma-free sexual and reproductive health services tailored to their needs.

Description: In collaboration with the Ministries of Health in South Africa, Kenya, and Uganda, Tiko Africa partners with community-based organisations to identify AGYW facing barriers to accessing sexual and reproductive health (SRH) services and who are at risk of HIV acquisition and unplanned pregnancies due to multi-dimensional poverty. These community-based organisations work within an ecosystem that includes both public and private retailers, as well as mobilizers, to create an enabling environment for delivering tailored SRH services to AGYW. Through the Tiko mobile platform, AGYW are enrolled and linked to care. The digital platform provides AGYW with the option to access stigma free services and fully subsidized services at both public and private health facilities. Real-time data is collected via dashboards, supporting program implementation and ongoing improvements.
Lessons learned: Between January 2023 and December 2024, Tiko Africa delivered a total of 2,378,717 services to AGYW. Of these, 23.8% (565,651) were related to contraceptive services, and 23.1% (548,438) were HIV testing services. Among those tested, 7% (17,284) were on antiretroviral therapy (ART), while 4.8% (26,446) began taking pre-exposure prophylaxis (PrEP) during this period.
Conclusions/Next steps: The Tiko platform has shown that integrating sexual and reproductive health (SRH) services across various health facilities empowers young people to access stigma-free, discreet services. This approach has been instrumental in preventing unplanned pregnancies and reducing HIV acquisition among AGYW. By offering a range of tailored, confidential services, the platform has provided AGYW with the support they need to make informed choices about their health, ultimately averting pregnancy and contributing to HIV prevention.

THPED103

Stigma and healthcare access among African, Caribbean, and Black refugee and migrant women affected with HIV in Canada

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Background: HIV remains a significant public health concern worldwide, with marginalized populations, including African, Caribbean, and Black (ACB) immigrant and refugee women, disproportionately affected. According to the 2021 Canadian Census, immigrants and refugees account for 23% of the total population. In Canada, the majority of those affected are women and these women face a unique set of challenges in accessing health services, including social stigma, discrimination, and cultural barriers. These factors often deter them from seeking the care they need, contributing to poorer health outcomes.
The study also aims to identify strategies to improve health care access and reduce stigma for this population.
Methods: A qualitative, focused ethnographic study using an intersectionality framework was conducted between August 2022 and December 2024. Data were col-

lected through in-depth interviews with 14 participants, including refugee and migrant women affected with HIV, healthcare providers, and community leaders. Participants were selected using purposive sampling and were required to be comfortable communicating in English and/or French. Ethical approval was granted by the Behavioral Research Ethics Board (Beh-REB, #: 3232) at the University of Saskatchewan, on August 30, 2022.

Results: Key findings revealed that stigma and discrimination were the primary barriers to accessing healthcare. Participants reported feeling isolated, rejected, and fearful of disclosing their HIV status due to both HIV-related stigma and racism. Misinformation about HIV, both in within the community and within the healthcare system, exacerbated these challenges. Language barriers further hindered women's ability to access care. Despite these obstacles, some participants emphasized the importance of community-driven efforts to fight stigma, such as reframing language around HIV and fostering peer mentoring.

Conclusions: This study highlights the complex barriers that ACB immigrant and refugee women who are affected with HIV face in accessing healthcare in Canada. To improve healthcare outcomes for this population, a multifaceted approach is necessary, including reducing stigma, addressing misinformation, improving cultural competency in healthcare settings, strengthening peer mentoring and support systems, and providing language support. By adopting these strategies, healthcare systems can ensure better access to care and support for these women, ultimately improving their health and quality of life.

Mental health and well-being interventions, programmes and models

THPED104

Innovations in mental health and well-being in HIV care: addressing mental health and substance use disorders among displaced women and youth living with HIV in Nakivale Refugee Settlement, south-western Uganda

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Background: The mental health and substance use challenges of displaced populations living with HIV are well-documented. However, few studies focus on integrating culturally tailored, community-led interventions to simultaneously address these issues while improving HIV care outcomes. This study uniquely investigates the intersection of mental health, substance use disorders (SUD), and HIV care among women and youth in Nakivale Refugee Settlement. By leveraging community-led approaches rooted in trauma-informed care and peer support, this research brings new insights into replicable and sustainable interventions tailored to refugee contexts, aiming to bridge gaps in mental health support and HIV service delivery in resource-limited settings.

Methods: A mixed-methods observational study was conducted from February 2023 to April 2024 in Nakivale Refugee Settlement, which hosts refugees displaced by violence in the Democratic Republic of Congo and climate-related events. A sample of 300 women (aged 15–49) and youth (aged 15–24) living with HIV was selected using stratified random sampling.

Quantitative data was collected through structured interviews, mental health assessments (PHQ-9, GAD-7), and substance use screenings. Qualitative data was gathered via focus group discussions and key informant interviews with healthcare providers.

Results: The prevalence of mental health conditions and SUD among participants was striking: 45% of women and 35% of youth reported moderate to severe depressive symptoms; 50% exhibited PTSD symptoms; and 40% of women and 30% of youth experienced generalized anxiety disorder. SUD was also significant, with 20% engaging in alcohol use (10% meeting criteria for alcohol dependence) and 15% of youth using cannabis or other drugs. Interventions yielded promising results. A community-led mental health program reduced depressive symptoms by 35% and PTSD symptoms by 25%. Trauma-informed harm reduction strategies decreased alcohol dependence by 20%. A youth-led peer counseling initiative reduced substance use by 15% while fostering resilience and improved coping mechanisms.

Conclusions: This study demonstrates the transformative potential of integrating culturally adapted, community-led mental health and harm reduction programs into HIV care for displaced populations. Unlike prior research, it highlights the role of refugee health workers and youth leaders in delivering scalable and replicable interventions that simultaneously improve mental health and HIV outcomes.

THPED105

Insights from 2024 baseline assessment of mental health and psychosocial support interventions in selected USAID supported sites in Niger State, Nigeria

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Background: HIV and tuberculosis (TB) remain significant public health challenges in Sub-Saharan Africa, particularly in Nigeria, where mental health disorders such as depression and anxiety exacerbate poor adherence to antiretroviral therapy (ART) and directly observed treatment (DOT). However, mental health services remain inadequately integrated into health care.
This baseline assessment evaluated the availability of mental health infrastructure in selected facilities in Niger State, aligning with Nigeria's national mental health policies.
Methods: A cross-sectional survey design was employed, with cluster sampling used to select six USAID supported facilities representing three clusters in Niger State. Purposive sampling was applied to select two facilities in each cluster with the highest number of ART clients. A mixed-methods approach was used to collect both quantitative data through an assessment checklist and service utilization records, and qualitative data via key informant interviews (KII) with heads of ART, DOT, and Mental Health units as primary respondents. Quantitative data were analyzed using STRATA to derive percentages while thematic analysis was used to generate themes of the qualitative data.
Results: The findings revealed significant gaps in the integration and delivery of mental health services in secondary healthcare facilities. Only 31% of facilities have incorporated mental health services, and the same percentage of providers have received relevant training, signalling skills gap. Budgetary support is negligible, with only 6% of facilities receiving mental health budgets, while partnerships with mental health institutions exist in 12% of cases. Documentation of mental health activities is present in only 25% of facilities. Thematic analysis further underscores systemic issues, including poor integration of mental health into TB/HIV care, absence of referral systems, and limited technical expertise among service providers.
Conclusions: This assessment serves as a novel findings of current mental health provisions in the state and further highlights the critical need for integrated mental health services in TB/HIV care. These gaps also point to a need for enhanced policy advocacy, increased funding, capacity building, improved service delivery frameworks, and robust monitoring and evaluation of systems to address the challenges in providing quality mental health care in these selected facilities of the state.

THPED106

Co-existing depression and post-traumatic stress disorders in people living with HIV in Zimbabwe – a mixed-methods study

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Background: Progress in mental health care for people living with HIV (PLWH) has largely focused on depression. However, many individuals with HIV and depression have also experienced severe trauma and may have co-occurring post-traumatic stress disorder (PTSD). Despite this, little is known about the impact of trauma on the health of PLWH in high HIV-burden countries like Zimbabwe, or whether people with both PTSD and depression benefit from non-trauma-focused psychological interventions commonly used in primary health care, such as problem-solving therapy.
Methods: We studied 484 participants receiving HIV care in Mashonaland, Zimbabwe from 2018 - 2024. All had at least mild depressive symptoms (PHQ-9) and were being assessed for potential enrolment in a clinical trial addressing depression in PLWH. We assessed depression, trauma exposure, PTSD, and antiretroviral therapy (ART) adherence. Associations were examined using linear or logistic regression. Additionally, 24 participants with comorbid PTSD and depression who had received six sessions of a psychological intervention (called TENDAI, based on problem-solving therapy) were interviewed in-depth. Qualitative data were analysed using thematic analysis.
Results: Over 98% of participants with mild depression had experienced at least one severe lifetime trauma, and one-third had PTSD. Being assaulted and having more traumatic events were significantly associated with risk of PTSD. PTSD severity was linked to poorer ART adherence, even after adjusting for depression ($p<0.01$). Religious and spiritual attitudes, economic stress, and family influence shaped participants' views of the way the trauma had changed them. Many said that despair after trauma had caused them to become non-adherent. Participants overall found the TENDAI therapy very helpful in addressing mental health symptoms, but some aspects of the therapy inadvertently reinforced unhelpful PTSD-related coping mechanisms.

Conclusions: We found a high burden of trauma and PTSD among PLWH with depression in Zimbabwe. More research is needed to understand the social and cultural factors linking trauma exposure with mental health in this population. Non-trauma-focused, brief therapies can support recovery in PLWH with depression and PTSD, but adaptations may be necessary to prevent aggravating unhelpful coping behaviours which are characteristic of PTSD.

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Gender, sexuality and sexual cultures: Meanings, identities, norms and interventions

THPED107

Sexual health and perceptions of "time left" among older people with HIV in Ukraine: implications for HIV care

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Background: The sexual lives of older people including older people with HIV (OPWH), defined as 50+ years, is a persistent social and medical taboo. As clinicians avoid discussing risky sexual behaviors and testing older clients for STI, many OPWH present at diagnosis with advanced disease: in Ukraine, that included over 1/3 of OPWH, resulting in 3-11 times higher mortality than among HIV-negative age-peers.

Population mobility in humanitarian setting may increase risky sexual behaviors including among OPWH, leading to further HIV transmission.

Understanding OPWHs' perceptions of their sexual life and behaviors are essential for successfully reaching 95-95-95 HIV prevention and treatment goals and curbing the HIV epidemic.

Methods: We analyzed data from 30 qualitative interviews and 8 focus group discussions with OPWH about their experiences of diagnosis and living with HIV; and 15 qualitative interviews and 6 FGDs with HIV care providers about working with their OPWH clients.

Data were collected in Ukraine from 2019-2024, audio-recorded and transcribed verbatim, coded, and thematically analyzed using constant comparison method.

Results: Across OPWH and clinicians' accounts, four themes were discerned:

a. "Time left", whereby OPWH perceived their biological, professional, and social life may continue, but their sexual life was over. This translated into withdrawal from existing sexual relationships and shunning new relationships, to avoid HIV disclosure with an anticipated stigmatizing reaction;

b. "Internalized stigma" whereby OPWH considered themselves as less desirable than non-OPWH age-peers;

c. "Anticipated stigma", with heterosexual and LGBTQ male and female OPWH avoiding ageist discrimination from current and prospective partners by withdrawing from sexual life, and;

d. "U=U is a sexual renaissance vehicle" for OPWH whose romantic self resurrects through successful HIV treatment.

While the humanitarian context increased the vulnerability of new relationships, an active sexual life was important for OPWH, and its possibility provided inspiration.

Conclusions: HIV providers may combat ageism by routinely discussing sexual health among HIV treatment goals with OPWH clients and emphasizing the value of achieving viral suppression for safe and happy romantic and sexual relationships. Using real-life older persons narratives may be a powerful tool for edifying ART-naïve OPWH and broadening their notion of 'time left'.

THPED108

Bridging the gap: leveraging peer mentorship and community engagement to enhance health-seeking behavior among adolescent boys and young men in Zimbabwe

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Background: Adolescent boys and young men (ABYM) in Zimbabwe face significant challenges in accessing sexual and reproductive health rights (SRHR) services, especially in urban and peri-urban areas like Harare Metropolitan and Marondera District.

Despite comprising 20.16% of Zimbabwe's population, ABYM are often excluded from SRHR programming, resulting in low engagement and retention in HIV care (ZIMPHIA, 2020; ZIMSTAT, 2022). According to UNAIDS (2023), stigma, harmful gender norms, and limited youth-friendly services disproportionately affect ABYM, hindering their access to HIV and SRHR services.

The Brotha2Brotha (B2B) program addresses these gaps through mentorship, SRHR education, GBV prevention, drug abuse awareness, promoting positive masculinity and health-seeking behaviors.

Methods: Data on health service uptake, session exposure, and mentorship outcomes were collected using DHIS2 and analyzed through descriptive statistics to measure program impact. Qualitative data were gathered through focus group discussions and in-depth interviews. Thematic analysis was employed to analyze qualitative data, providing deeper insights into mentee experiences and program effectiveness. Study participants include 5,969 adolescent boys and young men (ABYM) aged 15-24 across Harare and Marondera to represent a population at high risk of HIV, GBV, and substance use. A risk assessment tool was employed to inform the recruitment process, ensuring the inclusion of participants most vulnerable to these challenges.

Results: The results shows that 99.45% was achieved regarding recruitment and 95% session exposure rates. Referrals resulted in 58.4% redeemed health services, with 96% of diagnosed HIV-positive mentees initiated on ART. Additionally, 362,384 condoms were distributed, and HIVST training improved HIV testing accessibility, achieving a 75% testing rate for targeted ABYM. Community initiatives reached over 7,500 people, raising awareness of drug use and SRHR. Program outcomes included increased health service uptake, reduced stigma around HIV, and development of peer role models.

Conclusions: B2B program successfully enhanced health-seeking behavior and SRHR awareness among ABYM in Zimbabwe, addressing critical gaps in HIV prevention and care. The program's sustainability plan, include trained mentors, purchased tablets installed with DHIS2 for data collection and community hubs, ensures long-term impact and scalability, demonstrating its potential as a model for similar contexts.

Implementation research to scale up prevention

THPEE093

Online PrEP and PEP delivery in Kenya: qualitative insights on client and provider barriers and facilitators to using a novel e-pharmacy telehealth model

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Background: Online delivery of HIV pre- and post-exposure (PrEP/PEP) has the potential to mitigate barriers to clinic-based services, but its implementation in Africa is still nascent. As part of the ePrEP Kenya Pilot, we interviewed clients and providers who obtained or delivered PrEP/PEP via a novel online delivery model to identify barriers, facilitators, and recommendations.

Methods: The delivery model leveraged a telehealth-enhanced version of an existing e-pharmacy platform. Adults (18+) based in Nairobi and Mombasa Counties completed initial PrEP/PEP eligibility screening with a remote clinician via telehealth; were courier-delivered an HIV self-test (HIVST) by a pharmaceutical technologist ("pharm tech") who could, if desired, assist with testing; uploaded a photo of the HIVST result for remote clinician review; and received a 1-month drug supply.

Clients paid nothing for the telehealth consultation or PrEP/PEP drugs but the equivalent of ~$2.00 USD for the HIVST and ~$1.50 USD for courier delivery. Near study endline, Kenyan social scientists conducted in-depth interviews with purposively sampled clients and with the study's remote clinicians and pharm techs.

Our thematic analysis of verbatim interview transcripts was informed by the Consolidated Framework for Implementation Research.

Results: From March to November 2023, we interviewed 30 clients—10 PEP clients, 10 PrEP clients who refilled ≥1 time, and 10 PrEP clients who never refilled—3 remote clinicians, and 6 pharm techs. Among clients, 53% (16/30) were female, and the median age was 27 years (IQR 25-30). Overall, participants liked the delivery model.

Facilitators to getting/delivering PrEP/PEP included factors supportive of client motivation (e.g., good privacy; fast, reliable delivery) and of client and provider capability (e.g., easy-to-use platform; high quality training) and opportunity (e.g., long delivery hours; dedicated time for delivery).

Client barriers included cost; platform requirements (e.g., smartphone); limited delivery area; and misunderstanding the courier deliverer/pharm tech's role. Pharm techs reported logistical barriers (e.g., delivery delays due to poor road infrastructure). Key recommendations included reducing client costs; expanding delivery area and hours; and establishing alternative delivery options (e.g., package lockers).

Conclusions: Online PrEP/PEP delivery is a promising differentiated service delivery option. Additional implementation strategies should be considered to address identified barriers.

THPEE096

Health care provider experiences after 12 months of implementing cabotegravir long-acting injectable PrEP (CAB LA) for Black women: EBONI study results

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Background: Black women (BW) make up ~50% of new HIV diagnoses among women in the US (CDC, 2021). EBONI, the first industry led implementation study evaluating CAB-LA for PrEP in BW among women's health (WH), primary care (PC) and infectious disease (ID) clinics in the US, used a gender aligned approach.

We present health care providers' (HCPs) implementation outcomes and ancillary health benefits after 12 months of CAB-LA use in their clinics.

Methods: From September 2022 to September 2024, 72 staff-study participants (SSPs) (11= WH, 20= PC, 41= ID) from 15 clinics completed surveys on implementing CAB-LA for BW that were analyzed using descriptive statistics. Interviews were completed with SSPs (N=43) at M12.
Results: Most HCPs (55.6%) were cisgender females, 43.1% were Black, and 13.9% were Hispanic, with a mean age of 43.5 years. HCPs rated CAB-LA highly appropriate for BW (mean=4.5/5, SD=0.62), acceptable (mean=4.5/5, SD=0.57), and feasible (mean=4.4/5, SD=0.57).
Clinic capacity to accommodate >25 patients on CAB-LA tripled from BL to M12 (15% vs. 54%) without increasing number of trained staff (4.8 vs. 5.2) or weekly staff time (40.9% vs. 37.5% reporting <=40% FTE).
HCPs reported high use (>50% among clinics with access) of these resources: clinic readiness for CAB-LA checklist, guide for CAB LA initiation and administration, CAB-LA acquisition tracker and CAB-LA injection video. HCPs reported high use of these strategies: using flexible scheduling (e.g. drop-in), training on providing PrEP to BW, partnering with pharmacies to acquire CAB-LA and other medication access supports. Consequently, over 85% of HCPs found implementing CAB-LA into their workflow easy (75%) or "neither easy or difficult" (13%).
HCPs noted benefits of bi-monthly visits for CAB-LA injections, including additional STI screenings (73.2%), screening for comorbidities (46.5%), and providing other health/psychological care (35.2%).
Conclusions: Within a year, clinic capacity to provide CAB-LA tripled without staffing changes. CAB-LA can be seamlessly integrated into various clinics to expand PrEP access for BW by using implementation resources (e.g., clinic assessment tools) and strategies (e.g., flexible appointments). HCPs in WH, PC, and ID clinics found CAB-LA highly suitable for BW, with bi-monthly visits offering ancillary health benefits.

THPEE113

Unveiling disparities through intensified case finding: transformative insights from HIV-TB cascade analysis across 12 states in India

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Background: Tuberculosis (TB) is the leading cause of mortality among individuals receiving HIV care, with 10.5% of all TB deaths in India attributed to HIV-associated TB. Resource-limited regions face challenges in accessing timely screening and treatment, exacerbating the dual burden of HIV and TB. Project SSHAKTI, under the Global Fund, implemented an intensified case finding (ICF) model across 12 Indian states (Apr-Dec 2024) to enhance TB detection and treatment among individuals diagnosed with HIV.
Methods: A cross-sectional study analyzed data from 82,299 individuals receiving HIV care who were screened for TB at 74 Care and Support Centres (CSCs) across 12 states. Screening efforts were community-led, with peer volunteers playing a vital role in identifying individuals suspected of having TB and ensuring referrals to diagnostic centres for evaluation and treatment. Standard diagnostic protocols were employed to confirm TB cases, including symptom screening, chest X-rays, sputum microscopy, and GeneXpert.
A cascade approach tracked referrals, testing, and anti-TB treatment (ATT) initiation. State-level and demographic data were analyzed using chi-square tests ($p < 0.05$) to assess correlations between TB diagnosis and key factors.
Results: Of 4,232 presumptive cases (5.14%), 96% were tested, and 241 cases (5.93%) were diagnosed as TB-positive. Delhi reported the highest positivity rate (11%), while Uttar Pradesh, with the largest cohort, had a lower positivity rate (3%). Referral adherence was over 97%, with 99% ATT linkage overall, although Bihar showed a 1% gap. Nagaland identified 13% presumptive cases but had a low 46% diagnosis-to-treatment linkage, indicating the need for stronger follow-ups. TB positivity was significantly higher among male adults and children under 15 (chi-square = 12.71, $p = 0.013$). Variability in suspected TB rates, from 1% in Assam to 13% in Nagaland, highlighted disparities in healthcare outreach and infrastructure.
Conclusions: Project SSHAKTI's ICF model effectively scaled TB detection and treatment among PLHIV. Community-led initiatives were instrumental in achieving high referral and testing rates. Addressing systemic barriers in states like Odisha and Sikkim through improved infrastructure, training, and follow-up systems is critical. Investing in predictive modelling, real-time data integration, and tailored interventions can significantly accelerate progress toward HIV-TB elimination.

THPEE114

AI-driven enhancements in PrEP care delivery

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Background: Health disparities in HIV prevention persist despite advancements in PrEP (pre-exposure prophylaxis) care. High-needs populations require awareness and access to PrEP, while healthcare systems face resource constraints. To address these challenges, we implemented Healthvana's Conversational AI tool at AIDS Healthcare Foundation (AHF) Wellness Centers, hypothesizing that AI interaction improves client awareness, PrEP initiation, adherence, and retention, while reducing staff workload.
This study evaluates the AI tool's impact on the PrEP Care Continuum, providing actionable insights into its role in advancing public health outcomes.
Methods: We analyzed client interactions with Healthvana's AI tool from January to December 2024. Metrics aligned with the PrEP Care Continuum—awareness, initia-

tion, adherence, and retention—were evaluated. Statistical comparisons were made between AI-interacting and non-interacting cohorts using odds ratios.
Demographic stratification included sex and other demographic variables where available. Specific metrics such as viewed results, appointment completion, and follow up visits were calculated. Staff workload was assessed by monitoring trends in AI-handled versus human-handled messages.
Results: Clients interacting with AI were 2.5 times more likely to view their results (65% vs. 45%, OR=2.3). PrEP initiation rates tripled with AI engagement (17% vs. 6%, OR=3.0). Appointment adherence improved from 58% to 68% with AI reminders opened (OR=1.5). Follow up visit rates doubled (52% vs. 35%, OR=2.0), highlighting improved retention. Demographic analysis revealed consistent benefits across all groups. AI-driven conversations predominantly discussed PrEP (28% of entries), demonstrating high levels of awareness. Staff burden was reduced, with 40% of incoming client messages routed to AI, enabling human resources to focus on complex tasks.
Conclusions: The findings highlight the transformative potential of AI in HIV prevention care. By enhancing client awareness, increasing PrEP initiations, improving adherence, and doubling retention rates, Healthvana's AI tool addresses critical gaps in the PrEP Care Continuum. Furthermore, the tool alleviates healthcare system constraints by reducing staff workload. These results advocate for broader implementation of AI in healthcare to optimize public health outcomes and resource efficiency.

THPEE115

PrEP awareness, offers, and uptake among pregnant women who tested negative for HIV in South Africa

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Background: Women's risk of contracting HIV increases considerably during and after pregnancy and childbirth. Oral pre-exposure prophylaxis (PrEP) is available to pregnant women in most primary healthcare clinics in South Africa, but access and uptake of PrEP during pregnancy is unclear.
Methods: Between 16/04/2024 and 11/10/2024, we conducted the third round of the AMBIT SENTINEL survey at 24 primary healthcare clinics in Eastern Cape, Kwazulu-Natal, Mpumalanga, and Gauteng provinces of South Africa. Up to 10 adults (ages 18+) seeking HIV testing services (HTS) during antenatal care at each clinic were sequentially enrolled. Participants who tested negative for HIV were asked about their experiences with HTS, including whether they were screened for and offered PrEP, accepted it when offered, and reasons for accepting or rejecting the offer.
Results: 213 (median age 26 years) pregnant women who tested negative for HIV were enrolled. 98% had tested for HIV before the current test, with 64% reporting ≥3 previous tests. 81% were aware of PrEP as a prevention method, with nurses and counsellors being primary sources of information. Only 44% (75/172) had been offered PrEP during their previous negative HIV tests, however. 68% (51/75) had accepted PrEP at the time.
Almost half of the participants (47%, 100/213) reported being asked about HIV transmission risk on the survey day; 31% (66/213) reported that PrEP itself was discussed with them. Of these, 44% (29/66) were offered PrEP and 72% (21/29) of those offered PrEP accepted it. Common reasons for accepting PrEP included protecting themselves and their baby from HIV. Reasons for rejecting PrEP included side effects from previous PrEP use and a preference for other prevention methods like condoms.
Conclusions: PrEP awareness is high among pregnant women testing negative for HIV. Although PrEP is being integrated into routine HTS in antenatal care, a positive step toward HIV prevention, only 14% of ANC clients in this study offered PrEP. Three quarters who were offered it accepted the offer. Enhancing consistency of providers discussing and offering PrEP is essential to improve actual uptake.

THPEE116

High initiation of pre-exposure prophylaxis (PrEP) among clients following STI diagnosis in Mazowe district, Zimbabwe from October 2023 through September 2024

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Background: Clients testing positive for sexually transmitted diseases (STIs) are at heightened risk of HIV acquisition. Integration of STI screening, HIV testing (HTS), and Pre-Exposure Prophylaxis (PrEP) screening and counselling has potential for identifying and linking at-risk individuals to PrEP. Gaps persist in leveraging STI diagnosis for same-day HTS and PrEP referral and active linkage (connecting and ensuring client gets the service) among STI-positive HIV-negative clients.
Description: From October 2023-September 2024, we trained healthcare workers (HCWs) at 17 HIV supported facilities in an HIV high-incidence district on strengthening HIV testing for clients treated for STIs using the revised Zimbabwe Ministry of Health and Child Care STI register. The register includes a column to document HIV testing information and administration of the PrEP screening tool. All STI clients testing HIV-negative are PrEP eligible under this tool, including other risk factors. Intensive

in-person monthly monitoring support visits to facilities were conducted from April 2024 to ensure implementation with fidelity.

Lessons learned: Intensified in-person monthly monitoring support to facilities on STI register and PrEP screening tool use improved same-day HIV testing and PrEP referral and linkage resulting in a surge in PrEP initiations during the six months of late-implementation (April to September 2024). Out of 6,036 clients who tested positive for STIs from October 2023-September 2024, 4,210 (69.7%) received HIV testing. Of those tested, 4,069 (96%) were HIV-negative (2,212 54% from October-March (early-implementation) and 1,857 (46%) from April-September, realizing a 3.3% positivity rate. All STI clients testing HIV-negative received PrEP counseling, with 1,279 (30.4%) initiating PrEP. Large PrEP initiation gains were made among STI clients specifically. PrEP uptake increased by 124% from 371–832 in early-implementation to late-implementation period.

Conclusions/Next steps: STI diagnosis can serve as an entry point for PrEP counselling, highlighting the importance of integrating PrEP services into STI service delivery. HCW capacitation, support and tailored screening tools can facilitate same-day PrEP counselling among STI-positive HIV negative clients.

Results confirm the importance of optimizing PrEP uptake among STI clients, ultimately reducing HIV incidence in this high-risk group. Adhering to automatic PrEP eligibility for STI-positive clients could further increase coverage in this high-risk group.

THPEE117

Understanding how preferences for self- versus provider-screening of HIV risk are associated with reported behaviors among clients accessing pharmacy-based HIV prevention services

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Background: Private community pharmacies often serve as a first access point for sexual and reproductive health products and could be leveraged to identify individuals who could benefit from HIV pre- and post-exposure prophylaxis (PrEP and PEP). We aimed to understand how pharmacy clients' preferences for self- versus provider-screening of HIV risk—the first step of engaging clients in pharmacy-based prevention services—are associated with various reported behaviors.

Methods: In the Pharm PrEP cRCT (NCT05842122)—a 60-pharmacy cluster-randomized controlled trial testing different models of pharmacy PrEP/PEP delivery in Kenya—all interested clients (16+) were screened for PrEP/PEP eligibility, including behaviors associated with HIV risk in the past 6 months and 72 hours. Clients could opt for self- or provider-screening of HIV risk. Clients who opted for self-screening used a portable tablet to select behaviors from a list that providers later reviewed; clients who opted for provider-screening answered questions with a provider in a private room.

We used Chi-square tests to determine if there were any statistically significant ($p<0.05$) differences in the demographics and reported behaviors correlated with HIV risk among clients who opted for self- versus provider-screening.

Results: From June 2023-December 2024, 3,944 clients enrolled among which 46% (1,815/3,944) opted for self-screening. Compared to clients who opted for provider-screening, a significantly greater proportion of those who opted for self-screening were female (48% vs. 44%) and in school (25% vs. 18%). Almost all reported behaviors associated with HIV risk in the past 6 months were significantly more prevalent among clients who opted for self- vs. provider screening, with some of the largest differences being in reported inconsistent condom use (81% vs. 59%), multiple sexual partners (55% vs. 42%), and engagement in transactional sex (15% vs. 5%).

There were no significant differences in reported behaviors associated with HIV risk in the past 72 hours between clients who opted for self- vs. provider-screening.

Conclusions: Self-screening of HIV risk offers a client-centered approach to enhance PrEP/PEP delivery, accommodating diverse disclosure preferences and encouraging open reporting of behaviors. Integrating a self-screening option into pharmacy-based HIV prevention programs could increase engagement and efficiency.

THPEE118

Implementation considerations for long-acting injectable PrEP rollout among female sex workers in South Africa: a qualitative analysis guided by the Consolidated Framework for Implementation Research

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Background: Female sex workers (FSW) in South Africa are disproportionately impacted by HIV, and daily oral PrEP initiation and continuation rates remain low. Long-acting injectable PrEP (LAI-PrEP) may alleviate adherence challenges associated with oral PrEP; however, LAI-PrEP

remains largely unavailable in South Africa. Exploring the contextual determinants of LAI-PrEP's implementation among FSW is essential before national rollout.

Methods: In May-June 2024, 44 adult FSW not living with HIV and served from two TB HIV Care FSW program sites, eThekwini and Ehlanzeni, participated in in-depth interviews (n=24) and focus group discussions (n=2).

Additional interviews were conducted with providers (n=4). Semi-structured guides, based on the Consolidated Framework for Implementation (CFIR) 2.0, elicited multilevel implementation determinants, including implementer and FSW contexts—mapped to CFIR domains and constructs through team-based, deductive thematic analysis.

Results: We identified LAI-PrEP implementation determinants across all five CFIR domains (Figure). Many FSW expressed LAI-PrEP needs and demand, citing advantages over oral PrEP such as greater privacy and reduced stress attributed to daily pill-taking. Many FSW suggested bundling other health services (e.g., family planning, STI testing), using mobile vans for delivery, and proactively communicating potential side effects to enhance LAI-PrEP's accessibility and acceptability.

Providers emphasized concerns about local conditions (e.g., supply chain), cold chain maintenance, training requirements, and overburdened staff, but highlighted the need for LAI-PrEP and its compatibility with their existing HIV prevention services.

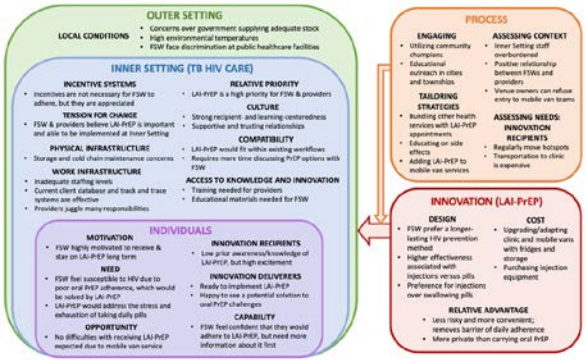


Figure. Key themes identified from IDIs and FGDs with FSWs and providers mapped to CFIR domains and constructs.

Conclusions: Findings demonstrate LAI-PrEP's potential to improve FSW health and well-being by circumventing onerous daily pill burdens. These results also provide insights into strategies to overcome potential barriers such as the need for integration with other health services, education, and program site infrastructure modifications.

Characterizing key implementation determinants within a large FSW program in South Africa can guide the tailoring of delivery strategies to optimize both the effectiveness and equity of LAI-PrEP rollout in South Africa.

THPEE119

Staying on PrEP: what matters most – delivery channel, cost, and quality of outreach

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Background: In 2021, India's National Program in India released the Technical Guidelines for PrEP, outlining various delivery modes. The PEPFAR-USAID-funded Project ACCELERATE implemented several channels for delivering PrEP, including clinic-based services for trans individuals, community site-based delivery, an online platform based, outreach via dating and social media apps, and helpdesk models. Both free and subsidized PrEP options were provided, with costs of less than 7 USD/bottle of Tenofovir alafenamide fumarate and 10 USD/bottle of Tenofovir disoproxil fumarate.

Methods: Eligible clients, as per National Guidelines, were recruited across various delivery modes. Online consultations and necessary diagnostic tests were conducted prior to PrEP dispensing. Counseling services, both at trans-clinics and online, were provided to support PrEP literacy, retention and safe sex practices. Data collected through the online platform (www.safezindagi.in) during September 2021- September 2024 was analysed to understand client preferences regarding delivery channel, cost and quality of outreach.

Univariate analysis was used to examine the association between outreach source and PrEP initiation and retention. Cox regression survival analysis assessed retention levels.

Results: A total of 3,640 participants were enrolled, with a median age of 28 years. Of these, 60.9% were male, 18.4% female, and 20.7% transgender, while 49.3% were MSM, and 16.7% were serodiscordant couples.

Among 98.3% eligible PrEP clients, 92.7% initiated PrEP and 53% remained on PrEP for over six months. PrEP continuation rates were 86%, 67% and 42% at 1, 3, and 6 months, respectively (X^2=408.41, p<0.001). Of MSM clients, 32.4% registered by self through the online platform, and 46% via social media/dating apps.

Among serodiscordant couples, 46.6% preferred picking up PrEP from a community site. Additionally, 88.7% preferred subsidized PrEP through self-registration and community site pick-up. Of paid PrEP users, 55.6% continued for more than six months, compared to 43.3% of those using free PrEP.

Conclusions: Online PrEP delivery and pick-up from community sites, combined with subsidized PrEP options are highly acceptable and likely to enrol new users. Outreach via virtual counselors is particularly effective in improving both retention and initiation.

These findings provide valuable insights for scaling up PrEP with multiple delivery options, ensuring broader access and adherence.

THPEE120

Retention patterns of clients on long-acting injectable cabotegravir (CAB-LA) and oral pre-exposure prophylaxis (PrEP) in Zambia: a comparative analysis

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Background: Long-acting cabotegravir (CAB-LA) represents a significant advancement in HIV prevention, offering an alternative to oral pre-exposure prophylaxis (PrEP). USAID DISCOVER-Health, implemented by JSI, implements both CAB-LA and oral PrEP in Zambia.

This analysis compares continuity rates between both sets of clients, providing insights into the performance of CAB-LA.

Description: This retrospective cohort analysis evaluated retention rates for clients initiated on CAB-LA and oral PrEP at six health facilities in Kitwe and Chibombo districts. CAB-LA clients initiated from February to November 2024, including those transitioning from oral PrEP, were monitored at subsequent injection intervals of 1,2,3,5,7 and 9 months from initiation. Those initiated on oral PrEP at the same facilities in the past 18 months were monitored at their subsequent drug refills at 1,3,6 and 9 months from initiation. Continuity was measured as the proportion of clients who attended their scheduled visits at the specified time points relative to the total number expected to attend, based on the elapsed time since initiation.

Lessons learned: By November 2024, 1,470 clients had received CAB-LA (females 60%; median age 29 years), while 6,399 were initiated on oral PrEP (females 57%; median age 27 years). For CAB-LA clients' continuity: 79% were still on treatment at 1 month; 63% at 3 months; 47% at 5 months; 28% at 7 months, 10% at 9 months. For oral PrEP clients continuity; 53% at 1 month; 42% at 3 months; 30% at 6 months, 9% at 9 months.

Conclusions/Next steps: CAB-LA seems to have better continuity rates in the early stages when compared to oral PrEP, however those rates become similar after 9 months from initiation. Although, further data and monitoring at follow-up points are required to corroborate these findings and tailor strategies for retention to both prevention methods.

THPEE121

HIV self-test kit implementation in community PrEP program reduces human resources and PrEP's waiting list

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Background: Barriers of access to PrEP created long waiting lists in Spain since its approval at the end of 2019. One of the reasons were three-monthly check-up visits and the lack of budget for Health Care Personnel (HCP). The community clinic BCN Checkpoint for MSM and Transgender Women studied the feasibility of implementation of HIV self-test kits every six months to reduce yearly visits with HCP.

Description: Inclusion criteria:

1. <50 years;
2. >1 year on PrEP with quarterly check-ups;
3. FG >70 in last two tests;
4. Good adherence; and
5. Agree to replace one biannual blood test for an HIV self-test.

PrEP participants were then invited for a "PrEP express-visit", which included an HIV self-test kit, self-sampling for other STIs and medication. Photo of HIV result was sent by e-mail to the nurse team for control and archive. Before implementation an acceptability survey was performed. From April 2021 till December 2024 data were collected from Standard and Express visits, average time of both visits, labor and material costs, reduction of the waiting list and costs of HIV self-test kits.

Lessons learned: Of the acceptability study 80.4% of participants expressed the HIV self-test was easy to perform and 92.9% easy to interpretate. A total of 43,532 HIV tests were performed to 4,937 persons during the study period and 2,810 persons received a "PrEP express-visit" (56.9%) with a total of 11,247 (25.8%) visits (allowing 9,471 additional visits compared to no-implementation).

Given the limited human and infra-structural resources, the implementation of the HIV self-test has provided slots for more check-up visits to an accumulated number of 820 persons, which represented an increase of 30.1% of capacity at the last quarter of the study period.

Although new PrEP users came partly from those falling out of the program, the majority were incorporated due to implementation of HIV self-test kits.

Conclusions/Next steps: The introduction and implementation of HIV self-test kits in the PrEP program of the community clinic has shown a high level of user's acceptability, has achieved reduction of the waiting list and improve PrEP access to more persons at risk, and less workload for HCP.

THPEE122

Insights from 6 Years of oral PrEP in Brazil: who are we missing in the path?

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Background: Oral HIV prevention (PrEP) with tenofovir/emtricitabine (TDF/FTC) has been available in Brazil, free of charge, through the public health system (SUS) since 2018. It can be prescribed for individuals aged 15 or older and weighing ≥ 35 kg at substantial risk of HIV. High rates of PrEP discontinuation have been observed in Brazil.
Our objective was to estimate and describe the factors associated with PrEP discontinuation.
Methods: National data from Drug Logistic Control System (SICLOM) for the years 2018 to 2023 were analyzed. Discontinuation was defined as having at least one dispensation in the last 12 months but without a valid dispensation (pills dispensed plus 40%) on the database closure date for that year. A binary logistic regression model identified sociodemographic factors associated with discontinuation. Significant predictors were selected through stepwise analysis (p-value inclusion <0.05), and odds ratios (OR) were calculated to assess their associations with discontinuation.
Results: Of 149,023 PrEP users, 76% were MSM, 9.53% cisgender women, 63% aged 25–39, and 66% had over 12 years of education. By 2023, 48.3% discontinued PrEP. Figure 1 highlights the probability of discontinuation was higher among cisgender women, individuals with lower education, and residents of the North region. Older individuals were progressively less likely to discontinue PrEP compared to younger users.
Notably, individuals with unregistered or ignored education levels were 17 times more likely to discontinue compared to those with >12 years of education (OR: 17.3, 95% CI: 4.0–75.1).

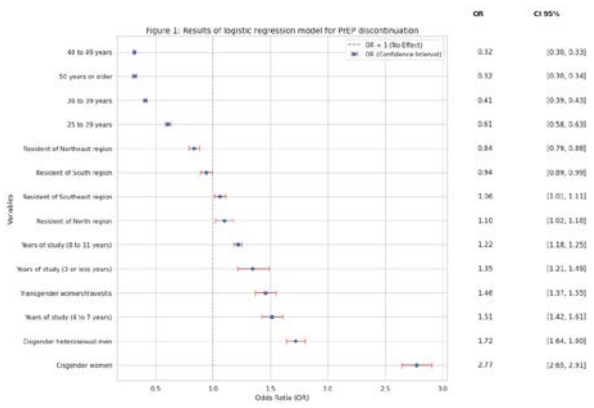


Figure 1.

Conclusions: Identifying the profile of PrEP users who discontinue is necessary for targeted interventions to support PrEP use. Barriers such as stigma and socio-economic challenges remain, particularly for the most vulnerable groups. Providing access to tailored HIV prevention strategies that address specific needs and circumstances is essential. Injectable PrEP could be a viable option, and further investigations should explore the feasibility of alternative PrEP modalities.

Implementation research to scale up treatment

THPEE123

Favorable impact of community ART dispensation on reintegration into care, retention, interruption in treatment and viral load suppression among persons with HIV in Zambézia Province, Mozambique (June 2021–September 2023)

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Background: Community antiretroviral therapy dispensation (cARTd) was introduced in Mozambique during the COVID-19 pandemic to minimize interruptions in treatment. Clinical officers and community volunteers were trained to dispense ART at clients' homes, provide adherence counseling, and guide clients to return to health facilities (HF). We evaluated cARTd's impact on reintegration into HIV care, retention in care, interruption in treatment (IIT), and viral load suppression (VLS) in Zambézia Province.
Methods: We conducted a retrospective cohort analysis using data extracted from electronic medical records in all 68 HF where cARTd is being implemented in Zambézia Province (June 2021–September 2023). We compared cARTd-eligible clients (missed scheduled appointments by 7–59 days) that received cARTd to non-recipients (clients not being visited). Outcomes were: time to first ART dispensation post-eligibility (T1), time from last scheduled pick-up after first ART dispensation post-eligibility until return to HF (T2), retention in care (having an ART dispensation <60 days after last scheduled date), IIT (missing a scheduled appointment by >59 days), and VLS (<1,000 copies/mL) rates. Descriptive statistics and multivariable regression models adjusted for demographic and clinical factors were used to evaluate cARTd effect.
Results: Compared to non-cARTd recipients (n=101790; 41.7%), cARTd recipients (n=142,371; 58.3%) were older (mean age 34.1 vs. 32.0 years), more often male (39.0% vs. 27.1%), and resided in rural locales (80.2% vs. 78.1%).

In the 12 months before eligibility, cARTd recipients had a higher proportion of IIT (31.5% vs 17.4%) and similar viral suppression rates (88.0% vs 88.8%), compared to non-recipients. T1 (32 vs. 34 days; Hazard Ratio[HR]=1.06, p<0.001), and T2 (-10 vs. -5 days; HR=1.14, p<0.001) were shorter for cARTd recipients. During the first-year post-return, IIT decreased (21.8% vs. 11.2%), retention rates were higher (79.7% vs. 76.1%; odds ratio[OR]=1.2, p<0.001), and VLS rates remained slightly lower among cARTd recipients (90.5% vs. 94.5%; OR=0.5, p<0.001).

Conclusions: Prior to eligibility, cARTd recipients had more interruptions in therapy. Post-cARTd, they returned faster to HF, had better retention and comparable VLS rates compared to non-recipients. Community participatory approaches/models may improve HIV-related health outcomes, particularly during crises (e.g., pandemics, major climate-related events), when access to care is further constrained.

THPEE124

Towards client-centered HIV care for older adults: a study of preferences and unmet needs in Uganda

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Background: With the scale-up of antiretroviral therapy (ART), the population of older adults living with HIV (PLHIV) continues to grow. In Uganda, the healthcare system is challenged to adapt its service delivery models to address the unique needs of PLHIV aged 65 and above.

This study assessed the preferred differentiated service delivery (DSD) models, unmet health needs, and their association with clinical outcomes to guide client-centered care model design.

Methods: A cross-sectional study was conducted from July to September 2023 across 47 public health facilities in Northern Uganda, involving 1,173 PLHIV aged 65 years and older. Structured interviews captured demographics, DSD model preferences, health needs, and barriers to care.

Clinical outcomes, including ART adherence and viral suppression, were extracted from electronic medical records. Descriptive and inferential analyses were performed to identify trends and associations.

Results: Participants were predominantly aged 65–69 (51%), female (62%), widowed (48%), and rural residents (72%). While 84% were enrolled in their preferred DSD models, Community Drug Distribution Points (CDDP) were the most preferred (52%), followed by Fast Track Drug Refill (FTDR, 29%), Community Client-Led ART Delivery (CCLAD, 8%), and Facility-Based Individual Management (FBIM, 8%). Among participants not enrolled in their preferred models, CDDP was the top alternative (66%), followed by CCLAD (12%) and home-based services (12%). Mobility limitations, sensory impairments, and co-morbidities such as hypertension and arthritis influenced preferences. Unmet health needs, reported by 17% of participants, primarily related to hypertension, chronic pain, and sensory impairments. Barriers to ART adherence, reported by 16%, included food insecurity, forgetfulness, and limited transportation access. Furthermore, 26% of participants reported insufficient information on coping with aging and chronic conditions. Despite 90% achieving viral suppression, adherence challenges were linked to unmet needs and misalignment with preferred DSD models.

Conclusions: The findings highlight the need for tailored HIV care models for older adults living with HIV, integrating services for co-morbidities and addressing logistical barriers. Community-centered and home-based DSD models show promise for improving satisfaction and health outcomes. Adapting Uganda's healthcare delivery framework to the unique needs of aging PLHIV will enhance care quality and equity for this growing population.

THPEE125

Integrated mobile health intervention to improve medication adherence and outcomes among people living with HIV/AIDS and co-infected with tuberculosis at care centers in parts of South-Eastern Nigeria

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Background: Medication adherence is critical for achieving optimal treatment outcomes in people living with HIV/AIDS co-infected with tuberculosis (TB). Poor adherence increases the risks of treatment failure, drug resistance, and mortality. Mobile health (mHealth) technologies has shown promising solutions to improve adherence by leveraging tools such as SMS reminders, phone calls, and video support and this stresses the need to evaluate the effectiveness of an integrated mHealth intervention in improving medication adherence and clinical outcomes.

This study aimed to determine the effectiveness of an integrated mobile health intervention to improve medication adherence among People Living with HIV/AIDS and co-infected with Tuberculosis at Care Centers in South-Eastern Nigeria.

Methods: About 700 consenting male and female participants were randomly slected from three care centers in Imo State, South-Eastern Nigeria for the study. They were further randomized into five groups: SMS, Telephone call, Video, Integrated mHealth which involved simultaneous utilization of SMS, Telephone call and Video, as well as the Control group without any mhealth intervention but the usual clinical practice.

The intervention included medication reminders, adherence monitoring, and appointment notifications tailored to the group assignment. Data on medication adherence were collected at baseline and six months post-intervention using validated scales and questionnaires.

Outcomes such as CD4 counts, Viral load, and body mass index (BMI) were determined using standard methods. Statistical analyses included Chi-square tests, logistic regression, and multivariate analyses.

Results: Of the 646 participants evaluated at baseline, 618 completed the study. Post-intervention medication adherence improved significantly across all mHealth groups, with the integrated mHealth group showing the highest adherence (baseline: 65.1%; post-intervention: 76.2%, p<0.0001).
Appointment adherence also increased notably in the integrated mHealth group (baseline: 19.4%; post-intervention: 83.4%). Viral load suppression was significant (mean: 3922.2 to 386.6 copies/mL, p<0.0001), with improvements in CD4 counts and body mass index (BMI).
Conclusions: Integrated mHealth interventions significantly enhanced medication adherence and clinical outcomes in HIV/AIDS-TB co-infected individuals.
This study demonstrates the need for combining multiple mHealth tools for comprehensive care, offering evidence for policy implementation and future scaling in resource-limited settings.

THPEE126

Institutionalization of Quality Improvement projects to improve ART service delivery in Rwanda

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Background: The Rwanda Health Sector Strategic Plan IV prioritizes the institutionalization of Quality Improvement (QI) to enhance the quality of healthcare service delivery. QI has been instrumental in advancing HIV care and treatment in Rwanda. Since September 2022, the Rwanda Biomedical Center (RBC), with ICAP's technical support, initiated implementation of a national QI system within the HIV program.
This abstract presents strategies, outcomes, and lessons learned from QI implementation at 10 high-volume health facilities (>1000 PLHIV in care) across Rwanda, focusing on client enrollment in less-intensive model (LIM) to enhance Differentiated Service Delivery (DSD).
Description: Since 2022, ICAP supported RBC to scale-up QI program across 109 HFs using Plan-Do-Study-Act model to enhance ART service delivery. At the 10 targeted HFs barriers to quality ART service delivery included high staff workloads, incomplete viral load (VL) documentation, client readiness issues, and inadequate adherence support, which hindered effective client categorization into DSD.
To address the gaps, interventions included establishing QI teams, reorganizing workflows, improving VL documentation and monitoring, providing targeted training and mentorships on DSD flowcharts, and strengthening adherence counseling.
These strategies aimed at systematically improving ART services delivery, ensure client consent, increase client enrollment in LIM, and improve VL suppression.
Lessons learned: The initiative demonstrated that implementing the QI program improved healthcare outcomes. Client enrollment in the LIM increased from 35% at baseline in July 2022 to 88% after 18 months, surpassing the national standard of 85%. Strategic interventions, including establishing QI teams, enhanced data management and visualization, mentorships and customized training, experience-sharing platforms, optimized work organization, setting self-driven targets, and continuous monitoring, proved instrumental in addressing site-specific challenges and driving performance improvements. It also highlighted the value of data-driven, decision-making and stakeholder engagement in achieving sustainable results.
Conclusions/Next steps: Adopting QI processes enhanced the quality of differentiated ART service delivery, strengthened client-centered care, and improved enrollment in differentiated ART delivery models.
Establishment of QI committees fostered a culture of continuous improvement, enabling early problem identification and timely response.
Leveraging successful projects as models for broader applications offers valuable insights and frameworks for scaling up QI initiatives across the healthcare continuum.

THPEE127

Welcome back package: supporting people living with HIV in reengaging with care in Mozambique

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Background: Negative attitudes and behaviours among healthcare staff, such as rude and judgmental treatment, are significant barriers to HIV care engagement in Mozambique. Fear of mistreatment often discourages clients from returning to care, leading them to seek services elsewhere, which exacerbates the crisis in HIV care continuity.
To address these challenges, MSF implemented the Welcome Back Package (WBP) in Beira, Mozambique, to support PLHIV facing difficulties with adherence, retention, and re-engagement. The WBP aims to equip healthcare workers with the skills and attitudes to provide non-judgmental, supportive care, foster trust and encourage PLHIV to resume treatment.
Description: The WBP pilot was launched in May 2022 at Munhava Health Center (HC). It consists of three key components:
1. Triage/Identification,
2. Patient Support, and;
3. Clinical Management.
The program targeted disengaged individuals and a diverse range of healthcare. Core activities focused on transforming attitudes through training, collaboration, strengthening reintegration processes, and conducting client satisfaction surveys.
Lessons learned: The WBP has re-engaged around 141 individuals in care by 2024, contributing to increase the number of active ART clients in this HC. During the pilot

implemented in 2022, there was an increase of 32.4% of increased in active ART clients and a 70.2% reduction in LTFU compared to the previous year.

A notable cultural shift emerged among healthcare workers, who began to recognize and acknowledge their previous limited understanding of PLHIV. This transformation was mirrored by HIV care recipients.

In turn, patients advocated for the program, recommending its expansion to other HCs and attesting to its role in reducing fear, foster trust, and encourage return to care.

The WBP's impact extends beyond individual stories, enhancing PLHIVs' care and satisfaction, attracting the attention of national-level stakeholders.

Conclusions/Next steps: The WBP program highlights the importance of supportive, person-centred approaches in addressing barriers to HIV care retention. Its success has gained traction from Mozambique's National HIV Program, with plans of nationwide scaling.

A (comprehensive) toolkit is being developeed to guide implementation, training, and monitoring efforts. The WBP pilot illustrates the potential for broader adoption in high-burden HIV settings, offering a humane and impactful approach, ultimately improving HIV care.

Global and national financing, economic evaluation and sustainability

THPEE128

Shifting dynamics and expenditure patterns of HIV and AIDS funding in Lagos State: a description of trends and variations across different funding sources (2018-2023)

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Background: Despite global health efforts, major gaps persist in the fight against HIV/AIDS, especially in resource-limited settings such as Lagos State, Nigeria. Achieving the UNAIDS 95-95-95 goals for 2025 and SDG-3 by 2030 may increasingly become uncertain for the State in the face of perennial healthcare challenges.

This study assessed trends in public funding, evaluated funding contributions for care and treatment, and determined private sector involvement in HIV/AIDS programmes in Lagos State from 2018 to 2023.

Methods: The study used a retrospective assessment of HIV and AIDS funding in Lagos State from 2018 to 2023, employing the State AIDS Spending Assessment (SASA) system. Data collection involved both top-down and bottom-up approaches, capturing financial flows from sources to service providers. The top-down approach used donor and government reports, while the bottom-up approach gathered data from service providers. A new aspect was the inclusion of out-of-pocket expenses. Data was collected from policy documents, budgetary information, and stakeholders, using an adapted SASA questionnaire. Validation occurred in three stages, ensuring accuracy through verification, institutional review, and stakeholder feedback.

Results: The analysis of HIV and AIDS expenditure in Lagos State from 2018 to 2023 revealed notable disparities among funding sources. International contributions ranged from 74.69% in 2018 to 86.95% in 2023. Public contributions declined from 24.95% in 2018 to 12.34% in 2023, and private funding peaked at 1.57% in 2021 and was as low as 0.12% in 2019. Out-of-pocket expenditure was introduced in 2022 (0.1%) and increased slightly in 2023 (0.2%). In care and treatment, international sources provided 47.53%, public (1.06%), and private (9.59%). Human resource funding comprised 78.66% public, 7.7% international, and 35.29% private. Prevention funding was 14.22% international, 32.95% private, and 3.96% public. Programme management was funded 11.97% internationally, 15.89% publicly, and 14.51% privately.
Overall, international funds accounted for 78.69%, public for 20.61%, and private for 0.69% of total expenditure.
Conclusions: The study highlighted the critical need for sustainable HIV/AIDS financing in Lagos State by increasing domestic resource mobilization, fostering private sector engagement, and enhancing public investment in direct care and treatment while reducing reliance on international aid through integrating HIV services into broader health systems.

THPEE130

Market shaping and innovative financing for sustained dual HIV/syphilis rapid diagnostic tests commodity procurement

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Background: Over 8 million pregnancies occur annually in Nigeria and antenatal care coverage is 64%. HIV and syphilis prevalence in ANC is 1.4% and 0.7% respectively. Adequate and consistent supply of diagnostic and treatment commodities is key to achieving the UNAIDS 95-95-95 cascade targets. In 2019, the WHO updated the HTS Consolidated Guidelines, releasing a policy brief recommending the use of the dual HIV/syphilis test within ANC settings. Despite WHO's recommendation, country-level adoption was limited as the only available WHO-prequalified supplier was 45% more expensive than the existing first line global funded procured single HIV RDT. With dwindling donor resources, securing government and partner resources for large scale procurement of the more expensive dual RDTs was hindering scale up.
Description: CHAI commenced market shaping efforts to attain significant price reduction for the dual HIV/syphilis RDTs by supporting additional manufacturers from India and South Korea to complete WHO-PQ. CHAI's business case culminated in a volume guarantee facilitated by MedAccess UK with one of the suppliers, reducing the price of dual HIV/syphilis RDTs for public procurement at $0.95, from $1.50 previously.
Lessons learned: Three dual HIV/syphilis RDT manufacturers have achieved WHO-PQ. increased competition within the dual HIV/syphilis RDT market, coupled with significant price reductions realized a 36% cost saving when compared to procurement of single RDTs for both diseases. The Government of Nigeria, through state and donor resources, has sustained large volume procurement of the dual HIV/syphilis RDT with 4.2 million tests procured in 2021, 1.08 million in 2022, 4.4 million 2023 and 4.3 million in 2024.
Conclusions/Next steps: Continued market intelligence and visibility into the dual HIV/syphilis RDT market enabled MOH and partners to make cost-effective financing decisions for large volume procurements.
Lessons learned from this successful market shaping endeavor will remain crucial as more countries continue to adopt and roll out emerging diagnostic solutions.

Health systems, health systems strengthening and partnerships

THPEE131

Resilience of HIV services in the face of climate-related disasters: assessing system readiness and community adaptation in Kigoma, Tanzania

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Background: Tanzania has experienced increasing climate-related disasters, including floods and landslides, particularly between December 2023 and June 2024. Kigoma, located along Lake Tanganyika's eastern shore, is one of the most affected regions, with recurring floods disrupting health services, livelihoods, and infrastructure.
These disasters disproportionately affect adolescents and young people, particularly those living with HIV, by hindering access to essential HIV prevention and treatment services.
Methods: A mixed-methods approach was employed to assess system readiness and resilience in Kigoma. Ten young people were trained to understand the purpose of the research, the data collection tools, and the data collection processes. Each enumerator collected data from at least 30 respondents over two weeks. Quantitative data were collected from 367 respondents, including people living with HIV (PLHIV), non-PLHIV community members, and healthcare providers.
Additionally, qualitative data were gathered through eight focus group discussions with 10 participants in each group, involving PLHIV, non-PLHIV, healthcare workers, and local government authorities. Desk reviews of na-

tional frameworks complemented the primary data collection. The findings were validated through stakeholder consultations.

Results: The study revealed that most respondents lacked awareness of strategies, laws, or disaster preparedness mechanisms related to HIV service continuity. Government and agency assistance during disasters was minimal, leaving communities unprepared to handle the health challenges that arose. A significant proportion of respondents experienced severe health challenges, including disruptions in medication adherence. Among PLHIV surveyed, 53% failed to access ART refills during the disaster period, leading to deteriorated health outcomes. Of those who missed ART refills, 67% experienced an increase in their viral load, moving from undetectable to detectable levels.

Conclusions: Climate-related disasters significantly threaten the continuity of HIV services in Kigoma. This emphasizes the need for urgent action to integrate HIV service continuity strategies into national disaster preparedness frameworks. Enhancing community-led initiatives and strengthening health system capacities is crucial to mitigating future disruptions. These findings will inform advocacy efforts and policy development to ensure sustained access to HIV services during disasters.

THPEE132

Transitioning adolescents and young people living with HIV to adult care through rolling out a transition tool checklist: experiences from Zimbabwe in 2024

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Background: Over 190,000 Adolescents and Young People Living with HIV (AYPLHIV) will transition from adolescence to adulthood within the Zimbabwean health system over the next ten years. Therefore, there is an increasing call for differentiated services, and programs that support the transition of Adolescents and Young People living with HIV (AYPLHIV) from paediatric care to adult self-care management service.

Description: Zimbabwean Ministry of Health and Child Care (MoHCC) designed a transition checklist to support adolescents with age-appropriate knowledge and self-care milestones in HIV care. The checklist is in the Zimbabwean Operational Service Delivery Manual (OSDM) 2022, and MoHCC coordinated with Zvandiri (peer-to-peer counselling and support programme) in rolling out the checklist. In February 2024, MoHCC and Zvandiri conducted virtual training for 65 Health Care Workers (HCWs) and 10 Zvandiri staff. The checklist was administered electronically using OpenDataKit (ODK) by HCWs and Community Adolescent Treatment Supporters (CATS) during facility-based ART refill days, and in the community. Transition checklist outcomes were analysed descriptively using excel.

Lessons learned: Between March-December 2024, 5961/7791 (77%) AYPLHIV (median age 11, IQR 3 years, 56% females) were screened using the checklist across 18 districts in Zimbabwe. 96% (5719/5961) were aware of their HIV status, 92% (5475/5961) had a suppressed viral load and 93% (5524/5961) were able to independently take their medication.

Main challenges were noted among areas such as substance abuse and sexual and reproductive health as only 74% (4383/5961) were said to be free from substance abuse; 70% (4190/5961) were aware of risk factors of STIs and HIV transmission and 69% (4105/5961) were aware of how to prevent mother to child transmission (PMTCT). AYPLHIV with knowledge or self-care capacity gaps were linked to relevant services by CATS and/or HCWs.

Conclusions/Next steps: Many AYPLHIV are assumed to be knowledgeable and self-care as they move through the health system. However, with the help of the transition checklist, community cadres and HCWs can easily identify knowledge and capacity gaps and provide tailored services, ensuring smooth transition to adult care and optimal outcomes. There is need to follow up on the identified gaps, as Ministry continues to roll out the transition tool.

THPEE134

A roadmap to scale up person-centred care in the HIV response: recommendations from a global consensus process

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Background: WHO global normative guidance recommends person-centred care (PCC) approaches to reduce HIV-related mortality and morbidity and improve quality of life (QoL). However, consensus on and endorsement of key PCC elements and guidance on how different stake-

holders can realize PCC principles at the health systems, service delivery and individual client-healthcare worker (HCW) levels are lacking. We conducted a global consensus-building process to define core PCC elements and develop recommendations for implementation at scale.

Methods: We conducted five stakeholder consultations (34-43 participants each) between July 2022-July 2023, a three-round Delphi survey from March-July 2024 (49 participants) and an extensive review of the literature.

Participants represented all world regions and diverse actors (including clients, HCW, policymakers and researchers). Adjustments to statements and recommendations were made in Delphi Rounds 1 and 2 with final voting in Round 3.

Results: Emerging consultation themes provided the basis for survey statements in five categories: context/participation; relationships/empowerment; complex clinical needs/integration; health systems/universal health coverage (UHC); and HCW competencies. All Round 3 statements achieved over 90% agreement, with recommendations reaching at least 95% agreement.

An effective primary healthcare system, which prioritizes individual health and well-being and adapts to evolving needs, was recognized as foundational for PCC. Additional core elements (100% agreement) included: HCW responsibility to create safe/inclusive/stigma-free spaces; prioritize community leadership, including in care provision by trained and compensated peers and community HCWs; power sharing in client-HCW relationships, reinforced by HCW training and client literacy; use of appropriate digital technology to increase engagement; and cross-disciplinary collaboration to address different health issues in an integrated manner.

Recommendations included: policymakers setting national targets for self-reported QoL; strengthening integrated primary healthcare; researchers prioritizing community-academic partnerships; HCWs routinely assessing client-reported outcomes.

Conclusions: Our findings outline a roadmap with roles and actions for different stakeholders to realize the full potential of PCC. Jointly, there is a need to foster a culture that hears all voices in the care team, including clients, community, all HCW cadres and caregivers.

At a systems level, it will be crucial to integrate HIV into primary healthcare and align with the UHC agenda for increased investment in inclusive and responsive healthcare for all.

THPEE135

Using stakeholder engagement to improve gender based violence cascade among women and girls aged 15-59 years in Bukedi Subregion, Eastern Uganda

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Background: In Uganda, 95% of women have experienced gender-based violence (GBV). By September-2022, Pallisa, Butaleja, and Budaka districts in Bukedi sub-region registered 88% (4,620/5,238) GBV survivors among women 15-59 years, but none of these survivors was eligible for post-exposure prophylaxis (PEP) due to reporting more than 72-hours after the assault to the health facility, linked to social stigma, fear of revenge, confidentiality concerns, and cultural acceptability of violence, resulting in an increased risk of HIV acquisition.

We set out to improve timely reporting of SGBV within 72-hours through stakeholder engagement, thereby improving the PEP eligibility and uptake for HIV prevention.

Description: Since 2022, with district local governments' support, we identified key stakeholders in GBV prevention and management, including GBV focal persons, community development officers (CDOs), local council one chairpersons (LC1s), Village Health Teams (VHTs), police, religious and cultural leaders.

The team jointly conducted community dialogues at sub-county level, and group discussions at village level. The VHTs and LC1s sensitized the community and identified survivors of GBV at village level. Identified GBV cases were referred to the CDO, police or health facility for management.

Trainings and mentorships for 33 supported sites were conducted to equip CDOs, police and health workers with knowledge and skills to manage, document and report GBV survivors.

Data was reported on the performance indicator reference sheet monthly and was quarterly reviewed by stakeholders.

Lessons learned: With stakeholder engagement, the number of women 15-59 years that reported as GBV survivors increased by 80% from 4,620 in 2022 to 8,299 in 2024. The implication was that more women were seeking help from LC1s, police, CDO and health facility when experiencing violence, compared to the baseline.
PEP eligibility in the same period improved from zero to 103. Of the 103 eligible survivors, 73% (75/103) were initiated on PEP and 40% (40/75) completed.
Conclusions/Next steps: The stakeholder engagement efforts led to a significant increase in reported GBV survivors, indicating improved help-seeking behavior among women. We therefore recommend engagement of higher government authorities to influence policy changes that address SGBV, especially among women and continued stakeholder engagement and community sensitization on GBV.

THPEE136

Integrating GBV services in HIV prevention programs targeting AGYW in Eswatini

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Background: Gender based violence (GBV) continues to be the driver of HIV in Eswatini. Reporting of violence is low due to existing gender norms and pervasive culture of family secrets. World Vision Eswatini is implementing a Global Fund supported project in 14 constituencies in the four regions of Eswatini. WVE is delivering a combination HIV Prevention package aimed at halting the spread of HIV and reversing its impact in Eswatini.
The primary objective is to deliver comprehensive and layered HIV prevention package with high impact HIV services. GBV integration is aimed at addressing SGBV as a driver of HIV, enhance knowledge, increase reporting of violence cases and create a safe environment for AGYW aged 10-24 years.
Description: Integration of GBV services entailed training of project staff and 128 community cadre trained on GBV and LIVES. A gender-transformative approach was undertaken to engage communities on GBV focusing on gender norms, power dynamics, GBV-HIV nexus, challenging harmful masculinity and promoting equitable gender norms. In July – December 2023, two GBV Case Workers, through small groups and mass sessions, reached 324 community leaders and gatekeepers, and 439 ABYM aged 10 – 24 years. As a result, 35 AGYW who experienced sexual violence accessed services. SGBV prevention efforts were upscaled in the January – June 2024 period, reaching 382 community leaders, 614 members of the community, 350 caregivers of AGYW, and 263 ABYM. This resulted in 106 AGYW who experienced GBV accessing post-GBV services, a 203% increase from the previous period.
Lessons learned: Gender transformative engagement of communities on GBV as a driver of HIV should address power imbalances, increase AGYW's knowledge of GBV and on reporting pathways. It should equip caregivers with knowledge on HIV and GBV risks faced by AGYW and knowledge of protective and health services; and at community level, equip community members, leaders and ABYM with knowledge on SGBV root causes, address harmful gender norms and promote equitable gender attitudes.
Conclusions/Next steps: Upscale GBV prevention and response interventions targeting community leaders, caregivers, and ABYM for increased knowledge of SGBV and reporting of suspected cases. Investment in human resources and wrap-around services to improve access to comprehensive post-GBV services.

Integration of HIV services with other health and support services

THPEE137

Breaking the chain of tuberculosis transmission in high-risk groups through efficient program implementation

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Background: The blunderbuss approach to Tuberculosis (TB) program implementation has been the norm in Nigeria. The 2019 Nigeria HIV/AIDS indicator impact survey reported a prevalence rate of 0.6% in Kano, the most populous state in Nigeria.
KNCV Nigeria with donor funding implements TB care and treatment interventions, for the first time, we are intentionally targeting risk groups to generate evidence for programmatic decision making while improving treatment coverage.
Description: TB LON project is a five-year USAID funded grant implemented in Nigeria since March 2020. KNCV Nigeria designed activities spanning facility and community-based implementation approaches. At high volume facilities we institute mandatory TB screening services at ART clinics and other service delivery points using adhoc staff to improve coverage. At communities, outreaches targeting brothels and correctional facilities were conducted along with house-to-house TB screening campaigns involving community patent medicine vendors.
Reports were collected weekly, monthly and quarterly. Outreach data for 2022 from 3 brothels with host local government area (LGA), with outreach data for 2023 from 3 correctional facilities with host LGA and facility screening data from nine ART and out-patient clinics was cleaned and analysed using SPSS v20.

Lessons learned: A total of 558 female sex workers (FSW), 4,784 male inmates and 41,489 persons living with HIV (PLHIV) were screened for TB. TB yield among person's found presumptive for TB in these risk groups was 28.7% in FSW, 30.2% among inmates and 13.8% in PLHIVs representing the highest absolute value of 663 co-infected clients. The risk ratio, RR = 2.41, 95% CI [1.66, 3.50]; 2.16, 95% CI [1.73, 2.69]; 1.95, 95% CI [1.78, 2.14] respectively. The number needed to test (NNT) for a TB case was 21 for FSW, 7 for PLHIV and 3 for Inmates.
Conclusions/Next steps: TB yield was noticeably higher than that of the general population and not intentionally targeting these risk groups while programming could result in missed TB clients. Need to collaborate better with widened scope to include such risk groups as people who inject drugs is recommended. Findings and HIV testing limitations encountered have helped inform modified approaches in ongoing interventions on the project which are scalable nationwide.

THPEE138

Sustainable health financing for marginalized groups: Nepal's free health insurance model for PLHIV

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Background: Nepal introduced its Health Insurance scheme in 2016 to reduce financial barriers to healthcare and improve access to quality services for all citizens. In 2019, a free Health Insurance scheme for People Living with HIV (PLHIV) and their families was launched. However, the uptake was limited, with only 21% of PLHIV enrolled by 2021 at the 16 ART centers collaborating with the AIDS Healthcare Foundation (AHF) Nepal.
The primary barrier identified was the stigma and discrimination associated with HIV status disclosure during registration at local ward offices. By 2024, AHF Nepal was supporting 60.4% of the 25,728 PLHIV receiving antiretroviral treatment (ART) in Nepal.
Description: To address these challenges, AHF Nepal initiated a collaborative effort with the Health Insurance Board to modify the registration process, incorporating ART centers as the primary site for insurance registration. Peer Educators were enlisted to support PLHIV during the process, reducing the stigma associated with enrollment. ART centers, where PLHIV have already disclosed their HIV status, were identified as a more suitable environment for integration.
Lessons learned: This strategic shift led to a significant increase in enrollment: by 2022, the registration rate increased to 53%, 82% by 2023 and by 2024, it reached 88%. The results suggest that embedding the health insurance registration process within ART services, where individuals are already receiving care and have disclosed their HIV status, improved enrollment rates significantly.
The study demonstrates that merely offering free health insurance is not enough for high enrollment rates. Stigma and the need for a supportive environment are key factors. ART centers, with their established patient trust and privacy, offer an effective setting for registration.
Conclusions/Next steps: The integration of health insurance registration within ART centers, with continuous support from peer educators and other community-based interventions, has proven to be an effective strategy for increasing enrollment among PLHIV.

THPEE139

The health impact of increasing cervical cancer screening for women living with HIV in twelve PEPFAR focus countries

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Background: Cervical cancer is the most common cancer and cause of cancer-related death in women living with HIV (WLHIV) globally. The President's Emergency Plan for AIDS Relief's (PEPFAR) has invested over 168 million USD for cervical cancer screening and treatment in 12 countries through its "Go Further" campaign. However, the majority of WLHIV remain unreached by these interventions.
This analysis examines the impact of expanding cervical cancer screening to all WLHIV in PEPFAR treatment programs in "Go Further" countries.
Methods: This secondary analysis connects program data from PEPFAR's Monitoring, Evaluation, and Reporting (MER) Datasets (2022-2024) with data from the peer-reviewed literature to generate models for cervical cancer screening, treatment, and progression in the 12 countries. Models apply known case detection and pre-cancer treatment rates from 2024 MER data to the total number of "unscreened" WLHIV (no cervical cancer screening in the past three years) on PEPFAR-supported HIV treatment.
Models estimate the impact of reaching full screening coverage for this group on the detection of precancerous lesions, progression to high-grade squamous intraepithelial lesions (HSIL), and invasive cervical cancer (ICC).
Results: From 2022-2024, PEPFAR supported cervical cancer screening for 24.6% (6,854,607) of WLHIV on HIV treatment in "Go Further" countries (range: Namibia 11.8%, Tanzania 33.0%). Of these, 5.0% (340,653) of WLHIV screened positive for precancerous lesions (range: Kenya 1.6%, Namibia 12.3%) and 87.7% received treatment (range: Kenya 69.7%, Mozambique 94.1%).
If all WLHIV on PEPFAR-supported HIV treatment in these countries were screened for cervical cancer, the program could detect an additional 1,273,983 precancerous lesions (range: Botswana 11,189, Mozambique 517,074) and treat an additional 1,138,701 WLHIV (range: Botswana 9,043, Mo-

zambique 499,593). This investment would prevent an estimated 627,933 HSIL (range: Botswana 5,515, Mozambique 254,861) and avert 244,894 ICC cases (range: Botswana 2,151, Mozambique 99,396).

Conclusions: Improving cervical cancer screening among WLHIV in PEPFAR treatment programs would have a long-term impact on cervical cancer rates. Screening WLHIV for cervical cancer at PEPFAR sites integrates services for high-risk populations and capitalizes on pre-existing PEPFAR infrastructure. Increased investments to expand screening and treatment of precancerous lesions at PEPFAR sites are needed to reach adequate population coverage.

THPEE140

Unmet need for health and welfare services and treatment adherence in people living with HIV in the UK

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Background: Despite accessible HIV care in the UK, not all people with HIV are able to consistently take their anti-retroviral treatment (ART) as prescribed ('non-adherence'). Unmet wider health/social needs may hinder ability to fully engage with treatment.

Methods: Positive Voices 2022 surveyed people accessing HIV care at 101 clinics across the UK. We included all participants receiving ART who answered relevant questions (n=3,953; 85.5% of respondents).

Participants were asked about services needed in the past year, choosing from the following options grouped into four categories:

1. *Lifestyle management:* weight management, smoking cessation, alcohol counselling.
2. *Mental health:* psychology, stress/isolation, sex/relationship advice.
3. *Drug services:* drug counselling, chemsex support, detox.
4. *Welfare:* housing, meals, childcare, employment/benefits/financial advice, legal/immigration.

Responses were classified into three levels:

i. No service needs in this category ('no needs');

ii. 1+ service need in this category, all needs met ('met need(s)');

iii. 1+ service need in this category, 1+ need not met ('unmet need(s)').

Treatment non-adherence was defined as answering 'yes' or 'don't know' to the question: 'In the past 3 months, have you ever missed your HIV treatment for 2 or more days at a time?'.

Results: 2365 (59.8%) were gay, bisexual and other men who have sex with men, 938 (23.7%) women. 765 (19.4%) were Black African; median (IQR) age 53 (44-60). 362 (9.2%) reported non-adherence.

The proportion of respondents reporting unmet need(s) were 4.7% (drug services), 22.6% (welfare), 23.1% (lifestyle), and 30.3% (mental health). In demographic-adjusted analyses, 'unmet need(s)' for all four categories significantly associated with non-adherence, compared to no needs. Met need(s) for mental health and drug services had significant but weaker associations with non-adherence.

		Total N	Reported ART non-adherence (%)	Non-adherence aOR (95% CI)
		3,953	362 (9.2%)	
Lifestyle management	No needs	2,603	190 (7.3%)	1.00 (ref)
	Met need(s)	437	41 (9.4%)	1.33 (0.92, 1.90)
	Unmet need(s)	913	131 (14.3%)	2.00 (1.57, 2.54)
Mental health/ relationships	No needs	2,255	127 (5.6%)	1.00 (ref)
	Met need(s)	502	57 (11.4%)	1.86 (1.33, 2.61)
	Unmet need(s)	1,196	178 (14.9%)	2.61 (2.04, 3.33)
Drug services	No needs	3,680	295 (8.0%)	1.00 (ref)
	Met need(s)	91	16 (17.6%)	2.07 (1.18, 3.64)
	Unmet need(s)	182	51 (28.0%)	4.07 (2.85, 5.81)
Welfare	No needs	2,653	178 (6.7%)	1.00 (ref)
	Met need(s)	406	37 (9.1%)	1.31 (0.90, 1.91)
	Unmet need(s)	894	147 (16.4%)	2.50 (1.96, 3.18)

Each model displays the results from a logistic regression model, adjusted for age, gender, ethnicity, sexuality and year of HIV diagnosis; aOR=adjusted odds ratio; CI=confidence interval

Table. Association between health/welfare service needs and non-adherence to ART.

Conclusions: Health/welfare service needs associated with ART non-adherence. Associations were stronger with unmet needs; care providers should proactively assess needs and offer support to improve ART adherence.

THPEE141

Cardiovascular risk profiles and signs of vascular damage in people living with HIV on ART in rural Lesotho: findings from the PRECARIF study

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Background: The introduction of antiretroviral therapy (ART) has improved the life expectancy of people living with HIV (PLHIV) across Africa. As individuals on ART age, the burden of cardiovascular diseases (CVDs) has gained increasing importance.

The PRECARIF study aimed to assess the prevalence of cardiovascular risk factors and early signs of vascular damage among PLHIV receiving ART in rural Lesotho.

Methods: This cross-sectional study included adults aged ≥18 years attending routine ART visits at five healthcare facilities in rural Lesotho. Participants were assessed for cardiovascular risk factors such as elevated blood pressure (systolic BP ≥140 mmHg and/or diastolic BP ≥90 mmHg), diabetes mellitus (random blood glucose ≥5.6 mmol/L and HbA1c ≥6.5%), dyslipidemia (total cholesterol ≥5.2 mmol/L, LDL-C ≥4.1 mmol/L, or HDL-C <1.0 mmol/L in men and <1.3 mmol/L in women), high BMI (≥25 kg/m²), and tobacco use. Vascular damage was evaluated using the ankle-brachial index (ABI), fundoscopy for retinopathy, and ultrasound of carotid and femoral intima-media thickness (IMT). Pathologic ABI was defined as <0.9, retinopathy as abnormal blood vessels in the retina, and abnormal IMT as >0.9 mm.

Results: Among 343 participants 227/343 (66%) female, the median age was 50 years (IQR:18). Elevated BP was observed in 221/343 (64%), elevated blood glucose in 32/343(9%), dyslipidemia in 24/343 (7%), and an elevated BMI in 215/343 (63%); 88/343 (26%) reported use of tobacco. The number of participants with zero, one, or two or more cardiovascular risk factors was 39/343 (11%), 103/343 (30%), and 201/343 (59%), respectively. Ultrasound revealed abnormal IMT in 31/343 (9%) participants for carotid and 20/343 (6%) for femoral arteries.
Retinopathy was present in 44/343 (13%), while 63/343 (18%) had a pathologic ABI and 120/343 (35%) had renal impairment. Overall, 90/343 (26%) exhibited at least one marker of vascular damage.
Conclusions: A high proportion of PLHIV on ART in rural Lesotho had one or more cardiovascular risk factors, and 26% displayed evidence of vascular damage. These findings underscore the need for integrated approaches to CVD prevention and management within HIV care programs in resource-limited settings.

Innovations in data collection, monitoring and evaluation

THPEE143

Dorsal Slit conventional and Shang Ring device Voluntary Medical Male Circumcision methods: post operative outcome, Jhpiego's Project DOLO 2023-2024, Malawi Experience

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Background: The Project DOLO, through United States Centers for Disease Control and Prevention (CDC) funding, has supported the Ministry of Health (MOH) to roll out Voluntary Medical Male Circumcision (VMMC) services in the Lilongwe district since 2020. Dorsal Slit (DS) and the Shang Ring (SR) Device are the two preferred methods approved by the VMMC program. World Health Organization (WHO) guidelines recommend scheduled follow-up to ensure good wound care during the healing process.
Description: We analyzed data for the period January 2023 through September 2024 to understand the total number of clients who received VMMC services; those who were able to be followed up on the scheduled days; those who experienced moderate or severe adverse events (AEs); the method used for VMMC service; and diagnosis of AE.
Lessons learned: A total of 132,754 men received this HIV prevention service/intervention during the period under review. Of the total, 86,710 (65%) were circumcised using the SR device while 46,044 (35%) received services by the DS method. All clients, for the two methods, were followed at least once within 14 days.
During follow up, 6 (0.0045%) of the total circumcised clients were diagnosed with moderate AEs. This is within the program's acceptable 0.5% rate. Of all the moderate AE cases, 5 (83%) were diagnosed with moderate bleeding post operation and 1 (17%) with moderate infection post operation. The rate for moderate AE for SR and DS was 0.001% and 0.01% respectively.
Further, of the total with bleeding, 4 (80%) were circumcised through the DS method while 1 (20%) through the SR device. No intraoperative and severe adverse events were reported.
Conclusions/Next steps: This analysis demonstrated that men who are circumcised by the SR device have lower AE rate of 0.001% compared to 0.01% for DS method. Promoting use of SR could drastically reduce AE rates in VMMC.

THPEE144

Role of community led monitoring (CLM) as a quality assurance tool for improving coordination of HIV viral load monitoring services under the TASCQ program in Southern Zimbabwe

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Background: Viral load monitoring is a critical aspect of managing viral conditions, especially HIV, for tracking of treatment efficacy and client outcomes. However, access to viral load testing remains a significant barrier in many low-resource settings. Traditional viral load monitoring often faces challenges such as accessibility, cost, and timely data collection.
Community-led monitoring (CLM) offers a potential alternative, integrating local knowledge and resources to enhance viral load surveillance.
Description: To improve viral load surveillance community tailored adaptation strategies were implored in October 2023-August 2024. We engaged and trained 315 Community HIV/AIDS Support Agents (CHASAs) to collect Client Satisfactions Survey (CSS) that are embedded viral load indicators using digital tools in CommCare.
Data were collected from a cohort of HIV-positive individuals enrolled in Target Accelerate Sustain Quality Care (TASQC) program across several rural health centres in 4 Southern Zimbabwe provinces namely Matabeleland South, Masvingo, Bulawayo and Harare.
The CHASAs were then used as vital links to facilitate referrals, appointment scheduling, and follow-up care via Differentiated Service Delivery (DSD) models, which are central to community systems strengthening initiatives.
Lessons learned: The program conducted over 53,000 CSS to identify barriers in HIV services, including tracking of viral load indicators. The data was instrumental in enhancing quality improvement strategies localised at

each facility. Has enhanced quality improvement led to improvements in viral load monitoring, with the percentage of recipients without valid viral load results decreasing from 22% in March 2024 to 19% in June 2024 and 17% by September 2024.195 issues relating to viral load were identified and102 (52.3%) were resolved. CLM data has improved program planning and informed strategies for decentralized viral load testing facilitating localised viral load sample collection through DSDs, complimenting health systems and lab efforts to facilitating a more client-centred service delivery.

Conclusions/Next steps: CLM remains a vital tool for health systems monitoring and surveillance. Augmenting CLM, routine quality improvement efforts with periodic catch-up quality improvement campaigns increases program performance.

Looking ahead, scaling up CLM initiatives and better integrating community-led data into decision-making processes will be critical to driving equity and impact in the HIV response addressing barriers to achieving the final 95% of the 95-95-95 targets.

THPEE145

Using continuous quality improvement approach to improve HIV viral suppression among children and adolescents living with HIV in a National Teaching Referral Hospital in Kenya

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Background: HIV viral suppression is the ultimate goal of ART programs globally with UNAIDS setting the target at 95% to be achieved by 2030. Program data in Kenya shows progress toward achieving global goals, especially in the adult population. However, HIV viral suppression among children and adolescents living with HIV (CALHIV) is sub-optimal despite their vulnerability to the adverse effects of advanced HIV disease.

We initiated a continuous quality improvement (CQI) activity aimed at enhancing HIV viral load suppression and improving the quality of care for CALHIV.

Methods: This analysis included CALHIV on ART follow-up at the Kenyatta National Hospital in Kenya from Oct 2022 to Sept 2024. High HIV viral load was defined as VL results ≥200 copies per mL of blood. Program reports were reviewed at baseline and a fish-bone analysis was done to identify barriers and opportunities for VL suppression in CALHIV. Plan-Do-Study-Act (PDSA) model was used to institute changes in healthcare processes.

The interventions tested included school holiday clinic scheduling, caregivers' training for drug adherence, family clinics for holistic support, and virtual sessions. A rigorous monitoring system was implemented for timely review of milestones and modification of interventions. Monthly analysis of outcomes and VL suppression rates were presented using proportions and 95% confidence intervals.

Results: A cohort of 496 CALHIV were active on ART in the period. The age distribution was 0-9 years, 87 (18%); 10-14 years, 113 (23%) and 15 to 19 years, 296 (60%). There was a notable improvement in HIV viral suppression from 86.6% (95% CI 83.5-89.1%) at baseline to 92.3% (95% CI 89.6-94.4%) at the evaluation phase. The high viremia cohort reduced by 55% in the period from 76 clients at baseline to 39 clients at the evaluation phase. Timely completion of enhanced adherence counseling (EAC) sessions improved from 20.8% (95% CI 9.2-40.5%) at baseline to 75.7% (95% CI 64.8-84.6%).

Conclusions: Several inherent challenges related to systems and processes hinder successful management of high viremia among CALHIV. Quality improvement approaches are very effective in addressing the hindrances, improving the quality of services, and achieving VL suppression in this vulnerable population.

THPEE146

Spatial autocorrelation and hotspot analysis of infants turning HIV positives between 2-12 months of age across districts in Uganda: a review of FY22-24 PEPFAR DATIM data

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Background: Mother-to-child transmission (MTCT) of HIV, particularly during breastfeeding, remains a significant public health challenge in Uganda. Despite ongoing efforts, some HIV-exposed infants test positive between 2–12 months.

This study employs spatial analysis to identify clusters of HIV-positive infants within this age group, aiming to guide targeted interventions and improve health outcomes.

Methods: We conducted spatial analyses to assess clustering and identify districts with high counts of infants with HIV aged 2–12 months in Uganda. Data were sourced from PEPFAR DATIM for fiscal years 2022 to 2024 at the district level.

For each fiscal year, global Moran's I was used to measure overall spatial autocorrelation, while Anselin Local Moran's I (Cluster and Outlier Analysis) refined the identification of local spatial patterns, revealing districts with significant clusters and spatial outliers. Analyses were performed using ArcGIS software, with the number of HIV-positive infants as the key variable.

Results: The Spatial Autocorrelation analysis revealed positive spatial autocorrelation for HIV-positive infants across districts in fiscal years 2022 (Moran's Index = 0.2269, z-score = 7.0409), 2023 (Moran's Index = 0.2329, z-score = 6.8370), and 2024 (Moran's Index = 0.2917, z-score = 8.0498), all statistically significant (p-value < 0.001), indicating a non-random distribution of HIV-positive infants.

The cluster and outlier analysis identified persistent hotspots (HH) of HIV-positive infants, alongside shifting patterns of outliers (HL and LH) and significant cold spots (LL) in certain regions, highlighting areas for targeted interventions and resource allocation.

Conclusions: This study demonstrates a non-random spatial distribution of HIV-positive infants aged 2–12 months, with hotspots predominantly located in districts where HIV prevalence among individuals aged 15–49 exceeds the national average of 5.1% in 2024, particularly around Uganda's capital. These findings underscore the urgent need for targeted, region-specific interventions to accelerate the elimination of MTCT of HIV in Uganda. Future research should explore the underlying factors contributing to these spatial patterns and evaluate the effectiveness of interventions implemented in identified hotspot areas

E-Posters

HIV virology

EP0001

Leveraging BERT-based machine learning for HIV sequence analysis: insights into genetic diversity and coreceptor utilization

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Background: HIV's genetic variability poses challenges for treatment and necessitates innovative solutions to predict resistance and coreceptor usage. This study leverages Bidirectional Encoder Representations from Transformers (BERT)-based models for comprehensive HIV sequence analysis, uncovering patterns in genetic diversity and coreceptor localization (CCR5 and CXCR4). A Python library was developed to support diverse sequence formats, enabling clustering, labeling, and feature extraction, and integrating fine-tuned BERT models with HIV-specific datasets.
By employing cost-effective methods like Nanopore sequencing, this approach bridges research and clinical applications, advancing therapeutic strategies through whole-genome sequence analysis.
Methods: A Python library was developed to process sequence file formats like BAM, SAM, FASTQ, and GenBank. The library integrates pre-trained transformer models from AIRI, such as gena-lm-bigbird-base-sparse-t2t, originally trained on telomere-to-telomere sequences. These models were fine-tuned with HIV-specific data from the Los Alamos Database to predict localization to CCR5 or CXCR4 surface proteins.
Fine-tuned models generated numerical embeddings for novel HIV sequences, representing genomic patterns. These embeddings were analyzed using a random forest classifier to predict coreceptor localization. Evaluations included an 80/20 train-validation split, clustering analyses, and balancing CCR5- and CXCR4-labeled sequences. The library supports end-to-end analysis, bridging foundational research and clinical applications.
Results: The fine-tuned Big Bird BERT model achieved an accuracy of 72.5%. The confusion matrix showed a sensitivity of 67.4% for CCR5, a specificity of 57.1% for CXCR4, a precision of 59.7% for CCR5 predictions, and a precision of 64.0% for CXCR4 predictions. While t-SNE clustering revealed no discernable trends, the Python library was rigorously tested with industry-standard practices to ensure reliability, scalability, and robust performance for HIV sequence analysis.
Conclusions: This Python library enables efficient HIV sequence analysis, processing diverse file formats and integrating fine-tuned BERT models for coreceptor localization. Employing practices like version control, automated testing, and scalability ensures robustness. Future work will address computational limitations, refine classification accuracy, and perform end-to-end analysis for broader HIV research applications.

EP0002

Blood brain barrier pericytes as novel brain HIV reservoir

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Background: HIV latency constitutes a formidable problem within the HIV life cycle, marked by the virus integration into host DNA as metabolically inactive proviruses evade both pharmacological therapies and the host immune system detection. While subtherapeutic levels of antiretroviral drugs in the brain and the extended lifespan of several CNS cell types contribute to the generation of CNS reservoirs, the mechanisms that regulate the formation and maintenance of these reservoirs are poorly understood. This represents a substantial gap of knowledge, hindering progress toward an HIV cure and effective treatment of HIV-associated neurological disorders. Our research focused on the hypothesis that blood-brain barrier (BBB) pericytes are a previously unrecognized HIV-1 target and reservoir in the brain.
Methods: We analyzed brain capillaries isolated from brains of people who lived with HIV and cultured pericytes infected with HIV by RNA scope to determine HIV RNA and DNA. In addition, we used a novel HIV reporter, named HIVGKO, a dual fluorescent reporter that allows for identification of cells at different stages in HIV infection. The molecular signatures of actively infected pericytes and their latently infected counterparts within the same culture were assessed using fluorescence cell sorting, RNA isolation, and RNA sequencing.
Results: We identified for the first time latently infected pericytes in the brain of virally suppressed individual with HAND. Moreover, we determined several distinct molecular signatures when comparing latent, active, and uninfected populations of BBB pericytes. Among the most distinct pathways between latent and active infected pericytes are estrogen receptor signaling, mitochondrial dysfunction, and the sirtuin signaling pathway.
Conclusions: These findings are the first evidence that BBB pericytes can create a previously unrecognized HIV reservoir in the brain. Moreover, they provide key insights into the molecular signatures affecting HIV infection of BBB pericytes and may help to develop future targets for the treatment of HIV at the neurovascular unit.

EP0003

Extending the utility of standardized HIV-1 mRNA models with the HIV Informatics Suite

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Background: Despite advances in HIV biology, a major challenge remains in tracking and integrating information across the HIV DNA, RNA, and Protein landscapes. A significant gap has been the lack of standardized models for HIV mRNA, which limits research and therapeutic development. Considering this, I developed the **HIV-1 mRNA Atlas v1.0** by comparing internal and publicly available long-read sequencing data. However, the full potential of this resource remains underutilized. To further bridge these gaps, I developed tools and resources to enable researchers to perform comprehensive analyses in the HIV mRNA space.

Methods: In December 2024, I developed use cases for working with HIV mRNA into minimal prompts with Claude 3.5 Sonnet. I wrote tools in Python 3, and organized the tools into publicly accessible GitHub repositories, with accompanying documentation and examples to guide users. To ensure quality, I tested early "alpha" tool versions using known data and expected results. Only tools that produced accurate and reliable results were released as "beta" versions for broader use.

Results: The HIV Informatics Suite, available at the landing page: **https://github.com/GenerGener/HIV_Informatics_Suite_START_HERE**, provides tools and resources for making and/or using HIV mRNA models (see **Table 1**). Example outputs include modified reference genomes and annotations from LANL HIV Sequence Database or US NCBI RefSeq as projected mRNA model sets. Users can input their own HIV assemblies to generate customized model sets for downstream applications.

Table 1: HIV Informatics Suite tools

Tool/resource name	Tool/resource type	Function	Output	Status	Related tools/resources
Gnothics	Tool	Viral genotyping from assembly or raw reads; Detect target admixture; If admixture present, enable assembly deconvolution; Recombinant breakpoint analysis.	FASTA, metadata	Alpha	
AtlasAnnotator	Tool	Project annotations from Atlas v1.0 onto output from AtlasMaker.	GenBank, BED, GFF	Alpha	HIV-1 M 9 NL4-3 mRNA Atlas v1
AtlasMaker	Tool	A species-agnostic method for reference-guided mRNA modeling.	multiFASTA	Beta	HIV-1 M 9 NL4-3 mRNA Atlas v1; AtlasMatcher
AtlasMatcher	Tool	Determine the extent to which a user's cDNA matches a given model set. It is designed with HIV-1 in mind, but may be abstracted for other genomic loci.	metadata	Alpha	HIV-1 M 9 NL4-3 mRNA Atlas v1; AtlasMaker
External HIV datasets	Resource/Knowledge base	This repo will include notes on external datasets with HIV signal. It does not contain private or identifiable patient information.	documentation	Alpha	
HIV_Profiler	Tool	Leverage 5' LTR and unique splice junctions to track changes in HIV mRNA expression from subgenomic HIV mRNAs.	Read counts	Alpha	UTR_Maker
HIV-1 M 9 NL4-3 mRNA Atlas v1	Resource/Knowledge base	Standardized mRNA models of HIV-1 M 9 NL4-3 from GenBank:M22471.9 1-M22471.1	GenBank, FASTA, GFF, blat	Fully released*	HIVInformatics Suite
ONT_homopolymer_screen	Tool	Identify regions in nucleic acid sequences that may contribute toward sequencing artifacts.	metadata	Beta	
ParameterSweeper	In silico experiment	Minimap2, BWA-optimizer pilots* on public datasets.	metadata	Alpha	Gnothics, AtlasMaker, AtlasMatcher, HIV_Profiler, SpliceChecker, UTR_Checker
SpliceChecker	Tool	Compare input cDNA sequences to standard or user-supplied HIV mRNA models.	metadata	Alpha	HIV-1 M 9 NL4-3 mRNA Atlas v1; UTR_Checker
UTR_Checker	Tool	Assess for U3-R-U5 presence in user-provided HIV sequences.	metadata	Beta	HIV-1 M 9 NL4-3 mRNA Atlas v1
UTR_Maker	Tool	Make 5' and 3' UTRs from annotated cDNA/mRNA transcript models.	FASTA	Beta	HIV-1 M 9 NL4-3 mRNA Atlas v1; HIV_Profiler

ONT: Oxford Nanopore. UCSC: University of California Santa Cruz. UTR: Untranslated Region. U3: U3 region. R: R Repeat. U5: U5 region. "Repo": Github repository
*Full release dates (WYY-MM-DD): GenBank models and annotations on 2021-11-08; UCSC Genome Browser on 2022-09-29 (ORFs) and 2022-09-25 (mRNAs); Github (initial commit on 2022-09-30).

Conclusions: The HIV Informatics Suite is an evolving set of open-source and computer operating system-agnostic bioinformatic resources designed to maximize information extraction from HIV sequencing experiments. Many Suite tools are adaptable for studying endogenous host loci, broadening their applicability. By offering standardized mRNA models, the Suite supports ongoing HIV research and clinical efforts, bridging existing gaps until longer sequencing methods are more widely adopted. Active development ensures the Suite's continued relevance to the HIV research community.

EP0004

Don't forget about HIV-2: a cross-sectional descriptive study in Santo Domingo, Dominican Republic

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Background: HIV-2 and HIV-1/HIV-2 remain understudied in Latin America and the Caribbean (LAC) due to limited surveillance. Most research is from West Africa, where HIV-2 prevalence is 3%. This study estimates HIV-2 prevalence in the Dominican Republic (DR), a regional migration and tourism hub, to inform surveillance and clinical management strategies.

Methods: A cross-sectional study was conducted at a private HIV primary care clinic in Santo Domingo between June and July 2024. A total of 118 people with HIV (PWH) were recruited based on clinic attendance. Eligibility criteria included a confirmed HIV diagnosis and informed consent. Demographic data, key population classification, and recent CD4+ count and viral load were extracted from medical records. HIV-1 and HIV-2 serostatus was assessed using the CTK Biotech HIV 1/2 Ab Plus Combo Rapid Test, a lateral flow immunoassay with 100% reported sensitivity and specificity.

No confirmatory molecular testing was performed. Descriptive analyses were conducted to estimate HIV-2 prevalence and associated clinical parameters.

Results: Of the 118 PWH, 68 (57.63%) were biological males, and 73.73% were under 46 years old. The majority (67.8%) had been diagnosed for over two years, and 94 (79.66%) had viral loads <20 copies/mL. CD4+ counts >200 cells/mm³ were observed in 105 (88.98%). Key populations included immigrants (12.71%), sex workers (5.93%), MSM (21.19%), people who use drugs (6.78%), and individuals with no identifiable risk factors (53.39%).

Rapid testing detected HIV-2 antibodies in 3 (2.54%) participants and HIV-1/HIV-2 circulation in 8 (6.78%). Among these, 5 (45.45%) were biological females, and 6 (54.55%) had viral loads <20 copies/mL.

Conclusions: The 9.3% prevalence of HIV-2 and HIV-1/HIV-2 in this cohort suggests ongoing circulation in the DR. Given the absence of molecular confirmatory testing, these findings underscore the urgent need for expanded epidemiological surveillance, multi-center studies, and molecular diagnostics to improve case identification, clinical management, and public health interventions.

Strengthened monitoring of HIV-2 is essential to track viral evolution, optimize treatment protocols, and inform prevention strategies in LAC.

This study highlights the necessity for regional collaboration and investment in molecular epidemiology to address emerging HIV diversity in the Caribbean.

EP0005

Drug resistance associated polymorphisms in the HIV-1C RNase H and RT connection domains in treatment naïve individuals in Botswana

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Background: The reverse transcriptase (RT) connection (RT conn) and the RNase H domains in the RT region of HIV-1 subtype C (HIV-1C) is understudied, especially in Botswana, though research indicates that mutations in these domains can increase RT inhibitor (RTI) resistance. We sought to assess the mutation profile of RNase H and RT conn domains of HIV-1 C sequences from treatment naïve (TN) individuals in Botswana.

Methods: We surveyed previously reported RT conn and RNase H resistance associated polymorphisms (RAPs) from literature and Stanford HIV database using sequences from Botswana. These included sequences from the Los Alamos HIV database, focusing on those sequenced before 2002, prior to the rollout of RTIs. We also included HIV-1C sequences from treatment naïve individuals enrolled in a HIV-1 population-based cohort between 2013-2018, the Botswana Combination Prevention Project (BCPP). Fisher's Exact test was used to compare proportions of RAPs within the two time points.

Results: A total of 1,336 sequences from Botswana were analyzed, with 1,260 (94.3%) from the BCPP (post-2002) and 76 (5.7%) previously deposited on Los Alamos HIV database (pre-2002). In total, 764 (57.2%) polymorphisms were observed, of which 99/764 (13.0%) were significant. Polymorphisms significantly higher pre-2002 of clinical significance included L491A (5.3%, 1.1%) and K527C (1.3%, 0.1%). Polymorphisms significantly higher post-2002 of clinical significance included Q334D (5.3%, 14.8%), E339K (0.0%, 4.7%), E478K (0.0%, 6.3%), L491P (15.8%, 25.9%), R549K (0.0%, 12.1%), D549N (0.0%, 5.6%) and K527R (1.3%, 7.4%).

Other amino acid changes at position 335, such as G335Y and G335N, were significantly different between the time points, but were present at lower frequencies (G335Y: 1.3%, 0.1%; G335N: 0.0%, 4.8%) ($p < 0.05$).

Conclusions: We report a high prevalence of RAPs within the RNase H and RT conn domains of ART naïve individuals, from which the key polymorphisms were higher post RTI roll out in Botswana.

Further studies on the impact of RT conn and RNase H RAPs are warranted to understand their impact on pre-treatment RTI resistance.

EP0006

Understanding the evolution of HIV-1 in Ghana: subtype distribution and drug resistance challenges

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Background: Since the roll-out of antiretroviral therapy (ART), there has been significant reduction in HIV-1 related mortality and morbidity. However, limited surveillance on HIV-1 drug resistance and subtype diversity which impacts therapy have been carried out to assess the subtype population and their correlation with drug resistant mutations (DRMs) against the treatment regimen used in Ghana.

Thus, this systematic review synthesized and assessed data from 1986 to 2024 on subtype diversity and their correlation with DRM among persons living with HIV-1 in Ghana.

Methods: We searched PubMed, Scopus, Cochrane CENTRAL, CINAHL Complete, Web of Science, and Google Scholar for cross-sectional and longitudinal studies reporting on HIV-1 subtype diversity, drug resistance or both among individuals in Ghana published between 1st January 1986 to 24th July 2024 and reviewed according to PRISMA guidelines. The protocol for this review is registered with PROSPERO (CRD42024529606).

Results: A total of 2472 studies were screened, 28 were selected for full-text review, and 18 were included. The overall sample size was 2001. The majority of the HIV-1 subtypes were CRF02_AG (68.9%), A (3.9%), G (3.5%), 06_cpx (3.3%), B (2.1%), C (0.6%), CRF09_cpx (0.6%) and other recombinants forms. Subtypes D and K had only one occurrence in all the studies. Thirty DRM (majority; K20I/V (18.2%), M36I/K/T/V (15.4%) and H69K (15.1%)) were found in Protease Inhibitors, 20 (majority; K103N/R (20.5%), V179E/I/F/A (9.0%), A98G/S (8.6%) and V90I (8.2%) in the nucleoside reverse transcriptase inhibitors, 20 (majority M184V/I (31.6%), T215A/Y/F/S/I (13.0), and M41L (11.9%) non-nucleoside reverse transcriptase inhibitors, and 5 (5163R, L74I/M, E157Q, T97A and D232N) Integrase strand transfer inhibitors. Only two studies analyzed sequences for DRMs from the integrase gene.

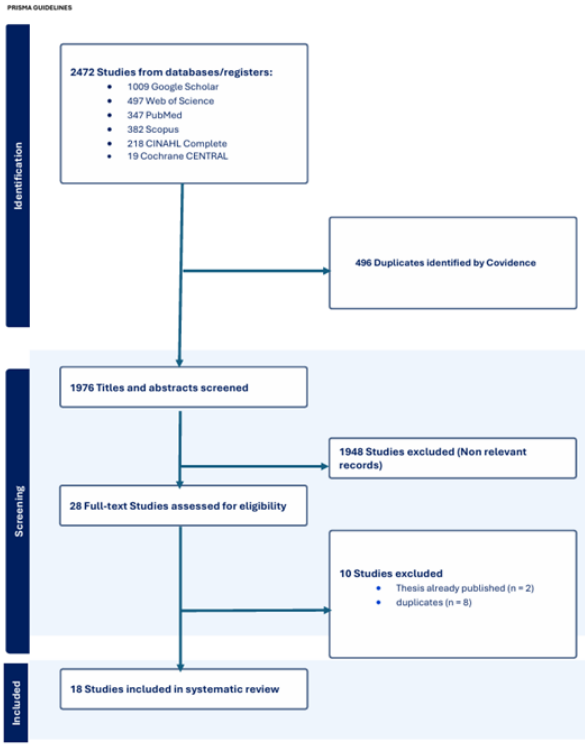


Figure. PRISMA guidelines.

Conclusions: Assessing HIV-1 subtype and DRM highlights the need for continued surveillance which is critical for a more targeted clinical and public health management of HIV based on the Ghanaian HIV infection landscape.

EP0007

Correlation of some haemostatic indices with immune status of persons living with HIV on treatment and those not on treatment and HIV negative individuals

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Background: Human immunodeficiency virus (HIV) has been associated with haemostatic derangement which may be linked to the immune and treatment status of persons living with HIV (PLWH). Cluster of differentiation-4 (CD4) count has been applied as a prognostic marker of immune status in persons living with HIV.
This cross-sectional study was designed to correlate CD4 count with the levels of some haemostatic indices in PLWH on antiretroviral treatment (ART), those that are yet to start treatment (non-ART) and HIV negative individuals. This was aimed to ascertain the correlation between immune status and haemostatic derangements as well as the link between anti-retroviral treatment and haemostatic complications in PLWH.
Methods: The study included 180 age matched adult participants (18-65 years) comprising 80 PLWH on ART, 40 PLWH not on ART and 60 HIV negative control participants. Protein C and S were measured using Enzyme linked Immunosorbent assay (ELISA) method, Euglobulin clot lysis time (ECLT) by the manual method, CD4 count by flow cytometry using BD FACS count machine. Statistical package for Social Science version 25 was used for data analysis.
Results: Protein C and Protein S levels were significantly lower in PLWH (ART and non-ART) compared to HIV negative participants. Conversely Euglobulin lysis time was significantly increased in PLWH on ART and non-ART compared to HIV negative subjects. The CD4 count was significantly higher in HIV negative compared to HIV ART and non-ART and higher in HIV ART compared with non-ART. A significant positive correlation exists between CD4 count and protein C as well as Protein S and a significant negative correlation between CD4 count and ECLT.
Conclusions: HIV acquisition leads to impaired coagulation inhibition (depicted by a decreased Protein C and S levels) and impaired fibrinolysis (represented by an increased ECLT) that may predispose individuals to thrombotic complications. The positive correlation between CD4 count with Protein C and S and negative correlation with ECLT implies that a positive response to therapy (increased CD4 count and stronger immune status) is accompanied by a concurrent reduction in the risk of thrombotic complications. This indicates a favourable prospect of antiretroviral therapy in resolving derangement with timely therapeutic intervention.

EP0008

Monocytes of elite controllers of HIV-1 show altered metabolic profiles

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Background: Elite controllers (EC) are a group of people living with HIV (PLWH) able to control HIV replication without antiretroviral therapy and have been proposed as a model of functional HIV cure. However, despite viral control EC have increased incidence of different morbid conditions, some of them associated with monocyte activation. We have characterized the metabolic profile of monocytes in EC compared to non-controllers PLWH with or without ART.

Methods: 40 participants were included: 10 EC, 20 non-controllers PLWH, 10 of them on-ART(onART) and 10 off-ART(offART), and 10 uninfected controls (UC) as reference. Monocytes were purified using immunomagnetic separation with purities greater than 95%. Untargeted metabolomics of monocyte extracts was performed using gas chromatography coupled to time-of-flight mass spectrometry (GC-QTOF/MS). MetaboAnalyst 6.0 software was used for bioinformatics analysis of data.

Hierarchical clustering of the normalized abundances of annotated metabolites was represented using heatmaps of Z-score values, and the significance of differences in individual metabolite abundances was tested by ANOVA. Enrichment of metabolite sets was performed using the Metabolite Set Enrichment Analysis tool from MetaboAnalyst 6.0.

Results: 54 different metabolites were detected in monocyte extracts. Interestingly, EC was the group with the highest perturbation (taking UC group as reference) in the metabolomics profile, followed by onART and offART groups. EC showed increases in the majority of metabolites, some of them reaching statistical significance ($p<0.05$): tyrosine, proline, alanine, serine, UDP-N-acetylglucosamine and α-hydroxyglutaric acid.

Moreover, some metabolites were specifically associated to EC phenotype (increased in EC compared to all other groups), among them xylitol and hydroxyproline, for which anti-viral properties have been shown. The enrichment analysis showed several enriched metabolite sets in EC compared to UC ($p<0.05$), among them: a) phenylalanine, tyrosine and tryptophan biosynthesis, b) alanine, aspartate and glutamate metabolism, c) butanoate metabolism. All these metabolic pathways have been related to immune activation and to different morbid conditions.

Conclusions: Our results suggest the existence of an exacerbated metabolism in monocytes of PLWH EC, biased towards metabolic pathways involved in inflammation and associated with different pathological conditions, supporting that in EC monocytes have a significant role in the occurrence of these phenomena.

EP0009

Impaired immune reconstitution in PLWH: the role of CD4⁺ T cell-associated NKG2D ligands, CD4⁺ T cell subsets imbalance, and immune function deficiency

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Background: Our previous research indicated that early activation of $CD56^{dim}CD16^{dim/-}$NK cells plays an important role in the recovery of CD4⁺T cells in immunological nonresponders (INRs) after ART.

This study mainly focuses on the profiles of cell receptors and their relative ligands for NK cells and CD4⁺T cells exhibited on INRs in order to analyze the impact of differential immune status on immune reconstitution in PLWH receiving ART.

Methods: This study included 66 PLWH who had been on ART for 4 years, comprising 32 INRs. Using flow cytometry, we examined the expression of cell receptors and ligands for NK cells and CD4⁺T cells in PBMCs, as well as the differentiation of CD4⁺T cells.

Results: The expression of NKG2D ligands, including MICA/B and ULBP2-5, on CD4+T cells in INRs is elevated prior to ART. The expression of CD95 on MICA/B⁺CD4⁺T cells and ULBP2-5⁺CD4⁺T cells was higher in INRs before ART compared to IRs. The percentages of CD95 expression on MICA/B⁺CD4⁺T cells and on ULBP2-5⁺CD4⁺T cells before ART were negatively correlated with CD4⁺T cell counts and ΔCD4. An imbalance persists in the CD4⁺Tcm and CD4⁺Temra subsets in PLWH, no matter before and after ART. CD4⁺T cells

exhibit elevated levels of activation, proliferation, exhaustion, and apoptosis prior to ART initiation. However, CD4⁺T cell activation and proliferation normalize post-ART, while apoptosis and exhaustion levels remain significantly elevated. Regardless of ART, the anti-apoptotic capacity of CD4⁺T cells in PLWH is still lower than that of healthy people.
Before ART, the frequency of CD31 expression on CD4⁺Tn cells in INRs is lower than that in IRs and healthy people. Following ART, the amounts of CD31⁺Tn from CD4⁺T cells remain impaired in PLWH compared to healthy people.
Conclusions: The upregulation of elated ligands for the NKG2D receptor on CD4⁺ T cells in INRs leads to increased susceptibility of CD4⁺ T cells to NK cell-mediated killing. CD95 plays an important role in poor recovery of CD4+ T cells co-expressing NKG2D-related ligands. The imbalance in CD4⁺Tcm and CD4+Temra subset impaired CD31 expression on naive CD4⁺ T cells in INRs is associated with poor immune reconstitution outcomes.

EP0010

P-Selectin Glycoprotein Ligand (PSGL)-1 expression on CD4+ T-cells in people living with HIV: contributing factors and impact on cell behaviour

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Background: P-Selectin Glycoprotein Ligand (PSGL)-1 acts as an HIV restriction factor and may also mediate the transmission of HIV to negative cells. We aimed to explore PSGL-1 expression on CD4+ T-cells in people living with HIV, the potential factors contributing to PSGL-1 expression, and the impact of PSGL-1 expression on CD4+ T-cells.
Methods: Flow cytometry was used to determine PSGL-1 expression on CD4+ T-cells, proportions of CD4+ T-cell-platelet aggregates, and expression of markers of cell exhaustion (PD-1), survival (BCL-2), and death (Caspase-3) in HIV-negative and HIV-positive individuals. ELISA kits were used to determine the levels of interleukin (IL)-12, interferon-gamma (IFN-γ), lipopolysaccharides (LPS), and beta (β)-glucan.
Results: A total of 117 participants (26 HIV negative, 52 ART-treated, and 39 ART-naïve) were enrolled. ART-treated individuals with CD4+ T-cells <200 cells/μl had a significantly higher level of PSGL-1 expression on their CD4+ T-cells compared to HIV-negative controls and ART-treated individuals with CD4+ T-cells ≥200 cells/μl. ART-naïve individuals with CD4+ T-cells <200 cells/μl had a significantly higher level of PSGL-1 expression compared to ART-naïve individuals with CD4+ T-cells ≥200 cells/μl. The proportions of CD4+ T-cell-platelet aggregates corresponded with the PSGL-1 expression on CD4+ T-cells, with ART-treated individuals with CD4+ T-cells <200 cells/μl having significantly higher proportions of CD4+ T-cell-platelet aggregates compared to negative controls and ART-treated individuals with CD4+ T-cells ≥200 cells/μl, and ART-naïve individuals with CD4+ T-cells < 200 cells/μl having significantly higher proportions of CD4+ T-cell-platelet aggregates compared to negative controls and ART-naïve individuals with CD4+ T-cells≥200 cells/μl. PSGL-1 expression was significantly and positively correlated with levels of IFN-γ , IL-12, LPS, and β-glucan in ART-treated individuals, whereas no significant correlations were observed in ART-naïve individuals. ART-treated individuals with CD4+ T-cells <200 cells/μl showed significantly higher proportions of Caspase-3 and PD-1, and significantly lower proportions of BCL-2 compared to those with CD4+ T-cells ≥200 cells/μl.
Conclusions: Our results showed that PSGL-1 expression on CD4+ T-cells varied in people living with HIV depending on their ART status and immunological status, and that systematic inflammation contributed to PSGL-1 expression on CD4+ T-cells, which resulted in cell exhaustion and death

EP0011

Differential immunopathogenesis between the small and large intestine in PLWH

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Background: HIV infection impairs gut homeostasis in people with HIV (PLWH) and is associated with immunopathology and comorbidities. However, the differential impact between the small and large intestines remains poorly defined.
Methods: We recruited 373 gastrointestinal-indicated participants from high HIV-endemic areas in South Africa for small and large intestinal mucosal and matched blood sampling. We performed flow—and mass cytometry (CyTOF), bulk RNA sequencing of tissue-resident memory (TRM) populations and spatial mucosal profiling, to study differential impacts between the small and large intestines from PLWH.
In addition, a 40-plex MSD assay correlated blood factors with T-cell dynamics in tissue.
Results: Tissue-resident memory (TRM) like (CD69⁺CD103⁺) and HIV susceptible (CCR5⁺) CD4⁺T-cells were enriched in duodenum compared to the colon with selective depletion of duodenal TRM CD4 T-cells in PLWH. Transcriptional profiles of remaining duodenal TRM CD4 T-cells revealed downregulation of pro-inflammatory genes (IL-2/6/8 and GM-CSF), reduction of integrin-signaling (TGFβ) and upregulation of IL-17 pathways in PLWH. Limited gene alterations were observed in the colon.
Conversely, TRM-like CD8+ T-cells were enriched in the duodenum and colon. Duodenal TRM-like CD8+ T-cells in PLWH exhibited increased activation (CD3ζ), strong cyto-

lytic function (GZMK), and elevated interferon and inflammatory responses compared to uninfected controls and blood. In PLWH, the blood CD4:CD8 ratio was positively correlated with markers of immune activation (RAGE, MIP-1β, IFNγ) and vitamin D, while negatively correlated with pro-inflammatory cytokines (TNFα, IL-17, IL-6, IL-5, IL-13) and lipid metabolism (triglycerides, LBP).
In contrast, the duodenal CD4:CD8 ratio in PLWH correlated positively with pro-inflammatory and regulatory cytokines (MIP-1β, TARC, IL-8-LA, IL-1α, IL-2, IL-10, IL-15) and the gut epithelial integrity markers (FABP2).
Conclusions: Our findings reveal selective depletion and dysfunction of integrin-expressing CD4 TRM cells in the duodenum, paired with increased cytolytic CD8 TRM activity, a pattern not found in colon. These findings underscore the compartmentalized HIV immunopathogenesis in the gut, emphasizing the need for targeted therapeutic strategies to restore gut homeostasis in PLWH.
Additionally, our results suggest that soluble markers in blood could serve as non-invasive indicators of duodenal gut pathology, potentially offering a potential tool for monitoring gut-related immune dysfunction.

EP0012

Tenascin C: a new player for HIV replication?

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Background: The extracellular matrix molecule Tenascin-C (TNC) is naturally induced upon tissue injury, playing a role as danger associated molecular pattern (DAMP) molecule in response to pathogens and tissue repair.
On the contrary, during chronic inflammation stages, TNC may play a detrimental role by maintaining cytokine induction and high TGF-b production.
Noteworthy, TNC was proposed to be induced during virus acquisition but its role in HIV is so far poorly investigated. Our project aims to characterize the effects of TNC on HIV-1 replication using novel TNC targeting tools.
Methods: A) The concentration of TNC in sera from cohorts of people living with HIV (acute infection, ART with or without immune recovery (IR) and controller cohorts) was measured by ELISA.
B) The effect of TNC on HIV-1 replication was investigated *in vitro* on peripheral blood mononuclear cells (PBMC).
In parallel, T cell activation and cytokine release was defined by flow cytometry.
Results: We found that A) the concentration of TNC was significantly increased in the cohort of ART treated without IR and decreased in HIV controllers compared to the non-HIV infected group.
These results suggest a modulation of TNC induction according to disease evolution and outcome. B) HIV replication in PBMC was increased in the presence of TNC. This augmentation was associated with increased TGF-b concentration and CCR5 expression on CD4 T cells suggesting that the immunomodulatory effects of TNC promote HIV replication.
Conclusions: Our results suggest, that upon HIV acquisition, TNC is induced and its presence may interfere with HIV replication by activating immunity on one side and inflammation on the other side. As a component of the extracellular matrix, future experiments should investigate the roles of TNC on HIV replication within the tissue microenvironment, and in particular in a context of cell-to-cell HIV transmission. As a new HIV target, TNC will open novel opportunities for HIV disease management by interfering with the TNC immune-modulatory properties.

EP0013

Modeling HIV-1 Clade C SHIV-C109 viral pathogenesis and antiretroviral therapeutic responses in humanized mice

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Background: Since NHP models do not support infection with HIV, Simian-Human Immunodeficiency Viruses (SHIVs) provide a good alternative for vaccine and cure studies. These hybrid viruses incorporating HIV viral envelopes and/or accessory genes into the SIV backbone are commonly used. Most SHIV studies thus far focused on HIV-1 clade B. HIV-1 clade C has been significantly understudied despite its predominance in low-resource regions outside of North America.
To address this deficiency, here we evaluated SHIV-C109 virus infection dynamics and anti-retroviral therapy (ART) responses in a dual-purpose hu-HSC humanized mouse model permissive for both HIVs and SIVs.
Methods: The clade C SHIV-C109 hybrid virus used here was created by combining the SHIVHXBc2 P3.2 backbone with an R5-tropic HIV-1 Clade C envelope sequence. Multiple hu-mice cohorts were inoculated i/p with SHIV-C109 and monitored for a prolonged period to determine the persistence of viremia by qRT-PCR and potential CD4 helper T cell decline by flowcytometry.
We also evaluated the efficacy of anti-retroviral therapy on this virus using the hu-mouse model as a prelude to translate this to the NHP model. Infected mice were administered with a combinatorial ART consisting of bictegravir, emtricitabine, and tenofovir alafenamide via drug incorporated diet.
Results: Our results showed that hu-mice could be readily infected by SHIV-C109 with viremia seen within a week. Persistent viremia lasted for >45 weeks. RNAscope analysis infected mouse tissues confirmed disseminated viral infection as seen in in lymphoid organs spleen and lymph nodes. CD4 T cell depletion was also seen during the chronic phase of infection mimicking the key aspect of HIV infection. With ART, viral suppression was achieved in all treated mice for several weeks.

However, there was a slow viral rebound during the later part of treatment period indicating generation of viral drug resistance.
Conclusions: The data from above on SHIV-C109 viral infection in the hu-HSC mouse model showed the potential for its use in pre-clinical in vivo research on understudied HIV-1 clade C viruses. Importantly, cure studies on both HIV and SIV including their variant strains can be performed in the same animal model for effective comparisons.

EP0014

Cytokines profiling, HIV-1 DNA Levels and viral-replication among antiretroviral treatment-experienced adolescents in Cameroon: paving the way toward pediatric HIV functional cure

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Background: Antiretroviral therapy (ART) leads to viral control, but the persistence of inflammation might contribute to long-term complications. This study investigates the inflammatory profile of adolescents living with perinatal HIV-1 (ALpHIV), its association with viral replication and proviral HIV-DNA.
Methods: A study was conducted in the cohort of ALpHIV within health-facilities of Yaoundé-Cameroon from 2018-2019. Plasma viral load (VL) was measured by RT-PCR at three time-points over 18 months and participants were classified as persistently non-viremic (PersNV) with VL<50 copies/mL, persistently-viremic (persV) with VL≥50 copies/mL and fluctuating VL (Fluct-VL with VL that significantly varies) over the timepoints.
At the final time-point (T3), total proviral HIV-DNA levels were assessed by droplet digital PCR and some relevant cytokines (IL-1β, IL-4 and CCL3) were measured by ELISA and their concentrations calculated at 450nm optical density.
Results: Overall, 37 ALpHIV were enrolled (55.3% female, median [IQR] age 13 [12-16] years). Throughout the three time-points, 19/38 (50.0%) were persV, 10/38 (26.31%) were with Fluct-VL and 8/38 (21.05%) PersNV. The median [IQR] VL at T3 was 4.05 [3.49-5.35] log copies/mL among PersV versus 2.33 [1.79-4.85] log copies/mL among Fluct-VL, p=0.188. Overall, the median [IQR] concentration of total proviral HIV-DNA was 2.72 [2.46-3.14] log(copies/mL) with no significant difference between the three groups. IL-4 and IL-1β levels were elevated (>10 pg/mL) in PersNV-participants compared to others (p=0.023 and p<0.01, respectively).
However, a moderate negative correlation was found only between IL-1β and VL (r= -0.48; p=0.012). CCL3 levels were higher in participants with Fluct-VL compared to others (p=0.042) with an apparent higher concentration (>15 pg/mL) in ALHIV with larger HIV-DNA size (>2.72 log copies/mL), p=0.692. Moreover, IL-4 and IL-1β levels did not differ according to HIV-DNA levels (p=0.558 and p=0.657, respectively).
Conclusions: The higher levels of IL-4 and IL-1β in PersNV underscores their potentials as pro-inflammatory markers of optimal control of viral replication, indicating ART-effectiveness. The possible role of CCL3 in Fluct-VL requires a wider investigation of its effect on viral replication.
Furthermore, the lack of association between these cytokines and proviral HIV-DNA levels calls for a broader profiling of biomarkers contributing to pediatric HIV reservoir control toward a functional cure.

EP0015

Baseline Torque Teno Virus viral load as a biomarker of HIV reservoir dynamics and inflammatory status in people with HIV following one year of antiretroviral therapy

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Background: Torque Teno Virus (TTV), a non-pathogenic single-stranded DNA virus from the Anelloviridae family, is found in up to 90% of the population. TTV viral load (VL) increases with immunosuppression, making it a potential marker of immune status. This study aimed to evaluate TTV as a biomarker in people with HIV (PWH).
Methods: We enrolled 28 ART-naïve PWH with detectable HIV VL. Blood samples were collected prior to antiretroviral treatment (pre-ART) and one year post-ART. TTV VL was quantified using a SYBR Green qPCR assay with a detection limit of 1.11 log10 copies/mL. HIV VL and CD4+ T cell counts were determined. Total and integrated HIV-DNA, and cell-associated viral RNA were measured by qPCR, while soluble markers (IP-10, IL-8, IL-1β, TNF-α, IL-10, IFN-γ, IL-6) were assessed by ELISA. Data analysis utilized non-parametric statistics.
Results: Pre-ART TTV VL was significantly higher than one-year post-ART (Pre-ART log10 VL median: 6.68 and post-ART log10 VL median: 5.70, respectivily; p=0.003) and it was markedly elevated at both time points compared

to healthy donors (HD) (HD log10 VL median: 4.1 p<0.0001 and p=0.0003, respectively). Pre-ART, TTV VL inversely correlated with CD4 count (p=0.045, r=-0.3328), and directly correlated with HIV VL (p=0.034, r=0.3565) and IL-6 levels (p=0.019, r=0.4166).
Furthermore, pre-ART TTV VL correlated with total HIV DNA (p=0.023, r: 0.4023), HIV-integrated DNA (p=0.041, r: 0.3985), and HIV RNA levels (p=0.008, r=0.5353). Post-ART, these correlations were no longer detected, indicating a potential restoration of immune competence. Pre-ART TTV VL was significantly associated with ΔHIV-integrated DNA (post-ART minus pre-ART) (p=0.015, r=0.4714) and correlated with IL-6 levels one-year post-ART (p=0.024, r=0.3840).
Conclusions: We developed a robust method to quantify TTV VL and observed improved control of TTV replication after ART initiation. TTV levels positively correlated with critical parameters associated with HIV infection, and he assessment of TTV VL prior to the initiation of ART emerged as a promising marker of HIV reservoir dynamics and the degree of immunocompromise. These findings highlight the potential of TTV VL as a cost-effective biomarker for monitoring HIV reservoirs, inflammatory status, immune recovery, and treatment outcomes in PWH.

EP0016

Plasma exosome cysteine-cysteine chemokine receptor 5 levels of persons living with HIV on antiretroviral therapy in university of Abuja teaching hospital, Nigeria

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Background: Exosomes can activate resting HIV-acquired CD4+ T lymphocytes, which could reactivate the virus. Hence, this study investigates the relationship between exosome CCR5 levels and viral load among persons on antiretroviral therapy attending a clinic at the University of Abuja Teaching Hospital, Nigeria.
Methods: In this cross-sectional study, we enrolled a cohort of PLHIV on ART for three months. After ethics approval, consented participants were screened using a standardized structured semi-interviewer-based assessment. Viral load quantification was performed using the Reverse transcriptase-polymerase chain reaction (RT-PCR) technique with a conventional PCR platform while the ELISA Sandwich technique was used to quantify plasma exosomes. Specimens were classified into two groups based on plasma RNA viral load results (non-suppressed (≥1000 copies/ml) and suppressed (≤20 copies/ml)) and plasma exosomes were isolated. Pearson correlation was used to measure the association between plasma exosome CCR5 levels and viral load. All statistical analysis was done using SPSS (IBM) v26.
Results: Of the 384 participants screened, the overall non-suppression (≥1000 copies/ml) VL was 10.1% (95% CI: 0.7–19.5), and suppression (≤20 copies/ml) VL was 89.8% (95% CI: 86.7–92.8). The Mean plasma exosome levels were 1.13(±2.97) and 0.19(±0.015) for the non-suppressed and suppressed VL groups respectively (p=0.057). Plasma exosome levels were significantly associated with viral load among the non-suppressed VL group (p=0.044), with females having a greater percentage 69.2% compared to males 30.8%. The largest age groups among women with non-suppression VL group were 25–34 and 35–44 while the males had the highest in the 35–44 age group.
Conclusions: This study showed a significant association between plasma exosome CCR5 and viral load. The high percentage of women among the non-suppressed VL group within the childbearing age indicates a threat to the prevention of mother-to-child transmission (PMTCT) efforts.

EP0017

HIV gut pathology in the absence of GI disease is focused in the upper small intestine in PWH from South Africa

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Background: The gastrointestinal (GI) tract exists in a dynamic homeostatic equilibrium that is disrupted in people with HIV (PWH) despite antiretroviral treatment (ART). Most GI studies in PWH focus on Caucasian populations presenting with GI complications and who live in distinct environments to Sub-Saharan African populations representing the majority of PWH.
Here, we present the first longitudinal research-elected intestinal biopsy cohort from populations living in areas with high HIV prevalence to study HIV gut pathology.
Methods: Participants from rural and urban areas in KwaZulu-Natal, South Africa, were enrolled into three groups without prior GI complications: HIV-negative controls (NC, n=12), suppressed HIV (PWSH, n=23), and viremic HIV (PWVH, n=17) for both colonoscopy and endoscopy procedures to sample matched duodenum, ileum, and colon biopsies along with blood samples that were compared with our GI indicated cohort.
Results: First, we compared NCs from the clinically indicated GI cohort to our research elected cohort and found elevated blood inflammatory (hsCRP) and metabolic (triglycerides and HbA1c) markers, consistent with clinical GI status. While blood CD4% levels were similar, CD4 T-cell levels in the duodenum and colon were significantly lower in NCs with GI indication (p<0.0001 and p=0.0273), who also showed increased intestinal crypt proliferation (Ki-67). In PWSH, significant CD4 T-cell depletion was observed within the duodenum, but not in colon and ileum. Longitudinal follow up after 6-9 months showed no CD4 T-cell restoration in the GI tract, despite ART. Duodenal

CD4 T-cells exhibited a high abundance of tissue-resident memory (TRM)-like (CD69+CD103+) and HIV-susceptible (CCR5+) phenotype in NCs but were significantly lower in PLWH. Plasma cytokine analysis revealed elevated pro-inflammatory cytokines (IL-12, IP-10 and RAGE) in PWSH, indicating chronic immune activation. IFN-γ levels negatively correlated with duodenal CD4 T-cell levels. Additionally, HIV-p24 protein was detected in the duodenum and colon of PWSH, implicating these sites as potential viral reservoir.

Conclusions: Our research elected longitudinal gut biopsy cohort in South Africa show cross-compartment specific CD4 T-cell depletion in the GI tract despite normal CD4 T-cell counts in the blood during suppressive ART. These findings reveal distinct intestinal immune reconstitution mechanisms, underscoring the need for targeted GI interventions to restore immune function.

EP0018

Incidence and metabolomic signatures of preeclampsia in Zambian women

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Background: Preeclampsia (PE) represents a major pregnancy complication, accounting for approximately 14% of maternal deaths and between 10-25% of perinatal deaths globally. The exact biological pathway resulting in PE remain largely undefined.

To answer this question and how HIV may alter these pathways, we performed a multi-omics analysis using longitudinally collected specimens from pregnant Zambian women.

Methods: Plasma samples of 1,237 pregnant women without HIV and 1,105 women living with HIV collected throughout pregnancy (32 wks GA) were collected from a prospective antenatal cohort in Lusaka, Zambia and analyzed by Sapient for metabolomic signatures.

To identify early biomarkers of PE, specimens were grouped by gestational age: <20 weeks GA versus 20 weeks GA. Metabolite detection and intensity were compared between all cases (PE) and non-cases and stratified by HIV status. Significance was determined as FDR<0.1. Enrichment and pathway analysis of significant metabolites was performed using MetaboAnalyst.

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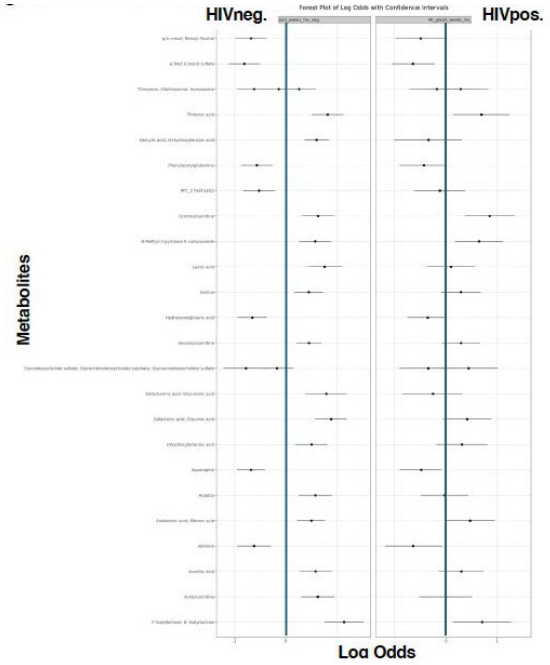


Figure 1. Plasma metabolites associated with preeclampsia.

Conclusions: Women with PE exhibit differences in the plasma metabolome compared to women without PE. These metabolomic differences did not appear to be impacted by HIV status, despite the fact that PE was less frequent in women with HIV compared to women without HIV. Additional data of the plasma proteome are being analyzed to complement metabolome data and gain more conclusive insights into the mechanisms underlying PE.

EP0019

Preterm birth outcomes in Zambian women are associated with distinct plasma metabolomic signatures, which vary by HIV status

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Background: Globally, over 10% of pregnancies result in preterm birth (PTB), a leading cause of neonatal mortality. Surviving infants often face lifelong health challenges. The role of HIV in PTB remains controversial. PTB has a multifactorial etiology, with two-thirds occurring spontaneously. Understanding the biological mechanisms underlying PTB is critical for identifying diagnostic biomarkers and designing intervention strategies.

Methods: Longitudinally collected plasma samples of Zambian pregnant women without HIV (WHIVneg; (n=968) and with HIV (WHIVpos; n=1,017) underwent an untargeted metabolome analysis (Sapient). Specimens were grouped in 4-week intervals starting at 20wks gestational age (GA). Metabolites were compared between women with term versus PTB (<37wks GA) in the total co-

hort (n= 1,986), and in sub-cohorts stratified by HIV. Significance was defined as FDR<0.1. Enrichment and pathway analysis of significant metabolites was performed using MetaboAnalysist.

Results: PTB occurred in 6.3% of women, independent of HIV status. Full cohort analysis in specimens collected at 24-28 or after 32wks GA identified 2 or 8 metabolites positively associated with PTB, respectively, and 1 metabolite with negative association. Only three metabolites were annotated, preventing pathway analysis.

Sub-cohort analysis revealed significant metabolites only in specimens 32wks GA. A positive association with PTB was observed for 9 metabolites in WHIVpos compared to 175 metabolites in WHIVneg, with only 2 shared metabolites. Metabolites negatively associated with PTB (>200) were only detected in WHIVneg. The top 3 pathways associated with PTB in WHIVpos were distinct from WHIVneg. However, enrichment analysis identified several metabolites groups common to WHIVpos and WHIVneg (Figure 1).

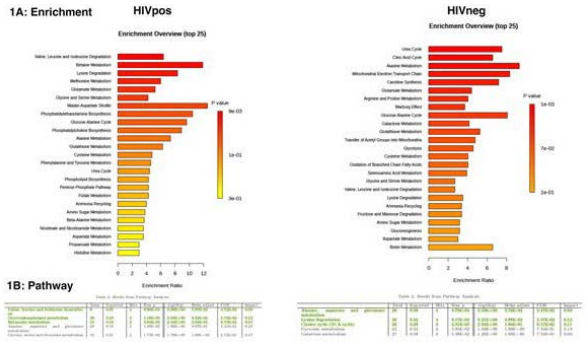


Figure 1. Metabolomic plasma signatures associated with preterm birth outcome.

Conclusions: In our Zambian cohort, metabolomic markers of PTB were only detected 32wks GA, limiting their utility as early diagnostic biomarkers. The metabolome analysis implies that there are shared and unique mechanisms leading to PTB in WHIVpos or WHIVneg.

Host immune responses

EP0020

Assessment of the level of CD4+ FOXP3+ regulatory T cells and immune status of people living with HIV under antiretroviral therapy at the Nakuru Level 5 Hospital, Kenya

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Background: Regulatory T cells are widely recognized as capable of suppressing the activation, proliferation, and function of a wide variety of immune effector cells. Tregs are activated to modulate immune responses to avoid over-reactive immunity. However, there is limited information on Treg cells expression in people living with HIV. The aim of this study was to evaluate the level of CD4 + T cells, Plasma HIV RNA and Regulatory T cells in people living with HIV under Antiretroviral Therapy attending Nakuru Level 5 Hospital, Kenya.

Methods: Participants were people living with HIV under ART attending the hospital for routine viral load examination. Among 90 people living with HIV appointed for viral load from April to July 2022, 51 of them were selected randomly. 15 non-HIV volunteers were also included in this study as controls. Peripheral venous blood samples were collected in EDTA tubes for Treg cells analysis, viral load and CD4 cell count exams.

The quantification of CD4 + T-cells was performed through Becton Dickinson FACScount. Plasma HIV RNA level was measured by a quantitative real-time polymerase chain reaction. The phenotyping was performed on fresh whole blood using conjugated monoclonal antibodies to CD3, CD4 and FoxP3. The analyses were performed with FACScalibur and FlowJo software

Results: There was a moderate but significant inverse association between CD4 cell count and viral load ($r = -0.506$, $p < 0.001$). The frequency of Treg cells was evaluated and the results showed that the percentage of CD4 + FoxP3+ Treg cells was statistically significant high in people living with HIV comparing with that of non-HIV controls ($p = 0.023$).

All the participants in stage I, II and III demonstrated significantly higher levels of CD4 +FoxP3+ Treg cells compared to non-HIV controls. people living with HIV in clinical stage III presented a high level of Treg cells compared to people living with HIV in other clinical stages.

Conclusions: The increasing of Treg cells in the advanced phase of HIV infection may suggest the relationship between Treg cells and HIV disease progression. Also, the manipulation of Tregs in people living with HIV can possibly be used in improving their immunological status.

EP0021

Correlating immunoglobulin profiles in cervicovaginal mucus with HIV transmission and microenvironmental factors

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Background: There is inadequate knowledge on the correlations of the different immunoglobulin isotypes and subclasses with the cervicovaginal mucus (CVM) microenvironment and the possible implications in HIV-1 transmission. We aimed to correlate immunoglobulin profiles in human CVM from adult women in Kenya with CVM microenvironment and to the diffusivity of HIV-1 virions in the CVM. Our study provides a unique perspective on the interplay between immunoglobulin profiles, cervicovaginal mucus microenvironment, and HIV-1 transmission.

Methods: Blood and CVM samples from 139 adult women aged between 18 and 50 years were collected using a softcup. Antibody isotypes/subclasses, and cytokines were measured using Luminex assay. Bacterial vaginosis was diagnosed by Gram staining and classified by Nugent scoring technique. Serum estrogen and progesterone levels were measured using chemiluminescent emission assay. Diffusivity of HIV-1 virions was assessed with an established protocol at KAVI-ICR. Statistical tests were done on graph pad prism software.

Results: IgG2 levels were the highest in the human CVM samples. Five samples had elevated levels of IgA of which, 2 were both BV and HIV positive, 1 BV positive and 1 BV intermediate. IgG3 levels were elevated in 3 samples 2 of which were HIV positive. There were significant positive correlations between the Nugent scores with IgA and IgM levels. BV positive samples had significantly lower IgG1 levels compared to intermediate and BV negative samples with a significant negative correlation between Nugent scores and the IgG1 levels.

There was no difference in the antibody levels based on contraceptive usage neither was there a correlation between the antibody levels and the levels of estradiol and progesterone. IgG1 had a negative correlation while the other antibodies had a positive correlation with most of the tested cytokines. IgG1 levels had a negative correlation with the mobility of R9Bal.

Conclusions: Our results suggest a protective role of IgA in BV and IgG3 in HIV-1 infection. BV-associated inflammation and degradative enzymes may degrade IgG1. Our findings provide insights to inform targeted HIV-1 and other STIs prevention strategies.

These valuable insights are particularly relevant to populations in Kenya and other regions with high HIV prevalence, where tailored interventions are urgently needed.

EP0022

Long term Elite Control of HIV-1 infection exhibit a deep perturbation of monocyte homeostasis

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Background: Elite controllers (EC) are an exceptional group of PLWH able to control HIV replication without ART. However, despite viral control, EC have increased incidence of different morbid conditions, among them cardiovascular disease that has been associated with monocyte activation.

We have performed an in-deep phenotypic analysis of monocytes in a cohort of long-term EC (LTEC) compared to non-controller patients with ART-mediated control of HIV replication.

Methods: 57 participants were included: 22 LTEC, 15 non-controllers PLWH on ART (ART), and 20 uninfected controls (UC) as reference. Monocyte phenotype was analysed by spectral flow cytometry using a panel of 10 different markers.

Data were analysed using:

a) FCSExpress to define different subsets of monocytes (according to CD14 and CD56 markers) and expression level of 8 different markers of monocyte function;

b) R software for unsupervised multidimensional analysis, including batch correction, dimensionality reduction, and clustering analysis.

Results: LTEC and ART groups were matched for age, CD4 counts and years since diagnosis. Three different approaches were used to characterize the phenotypic profile of monocytes:

1. levels of monocyte subsets (classical, intermediate and non-classical monocytes);
2. levels of expression of 8 different markers of monocyte function;
3. levels of monocyte clusters defined by dimensionality reduction (56 different clusters).

ART group presented a monocyte phenotypic profile very similar to that of UC group. In contrast, LTEC presented statistically significant alterations of monocyte phenotype:

a. increased level of intermediate and decreased level of classical monocytes;

b. altered expression of markers of monocyte function by the different monocyte subsets;

c. alteration in 16 different monocyte clusters (12 decreased and 4 increased).
Many of these alterations were also observed when comparing LTEC and ART groups.
Conclusions: Our results show that while spontaneous control of HIV is a benefit for EC PLWH, it may have an associated cost reflected in a deep perturbation of monocyte phenotype what could be a compelling argument to consider treating this population.
Also the differences observed in the monocyte phenotype according to the mechanism of HIV control could be associated to the incidence of different morbidities between EC and PLWH on ART.

EP0023

HLA class I and II alleles that associate with virologic and immunologic control in antiretroviral therapy-naïve South Africans living with HIV-1

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Background: Allelic variants of HLA genes modulate virologic/immunologic control of HIV-1 disease progression. Protective/deleterious alleles can be identified in select groups of untreated HIV-1 controllers including elite controllers (ECs) and viraemic controllers (VCs), who maintain CD4 counts >350 cells/µl and viral load (VL) <50 copies/ml or <2,000 copies/ml, respectively. High VL long-term non-progressors (HVL-LTNPs) maintain CD4 counts >350 cells/µl, but have a VL >10,000 copies/ml.
Alleles associated with HIV-1 disease progression can be determined in these groups by comparison to progressors with CD4 counts <200 cells/µl and VL >10,000 copies/ml.
Methods: Most studies report on HLA class I alleles that mediate antiviral CD8 T-cell responses and neglect CD4 T-helper responses mediated by HLA class II alleles.
We compared the frequencies of both HLA class I (*A*, *B*, *C*) and -II (*DPB1*, *DQB1*, *DRB1*) alleles in ECs (n=31), VCs (n=38), HVL-LTNPs (n=12) and progressors (n=99) to identify genetic associations with virologic/immunologic control in black South Africans living with HIV-1.
Sequence-based typing methods were used for HLA genotyping. Allele frequencies were determined by direct counting. Significant statistical differences between groups were calculated by Fisher's exact test (p<0.05).
Results: Compared to progressors, known protective alleles *B*57:03:01* and *DQB1*06:09:01* were found in ECs. Known *B*81:01:01* and additional protective alleles *A*26:01:01*, *DPB1*34:01:01* and *DQB1*04:02:01* and a known deleterious allele, *B*53:01:01*, were found in VCs. *C*04:01:01* and *DQB1*03:02:01* were protective in HVL-LTNPs.
When ECs and VCs were combined into a total virologic controller group, known alleles *B*57:03:01* and *B*39:10:01* and additional alleles *C*12:03:01*, *C*17:01:01* and *DQB1*04:02*:01 were protective, while *A*29:02:01*, *B*07:02:01*, *C*07:02:01*, *C*07:06:01* and *DRB1*12:01:01* were deleterious.
When ECs, VCs and HVL-LTNPs were combined into a total immunologic controller group, known allele *B*57:03:01* and additional alleles *B*42:01:01*, *C*04:01:01*, *DQB1*04:02:01* and *DRB1*03:02:01* were protective, while *A*23:01:01*, *B*07:02:01*, *B*44:03:02*, *C*07:02:01* and *C*07:06:01* were deleterious.
Conclusions: This analysis identifies HLA alleles associated with virologic/immunologic control of HIV-1 disease progression in select controller groups (ECs, VCs, HVL-LTNPs) compared to progressors in therapy-naïve South Africans living with HIV-1.
We confirm previous associations identified by others and add new associations that includes HLA class II alleles. These data can inform prevention/cure strategies in HIV-1 disease.

EP0024

Dynamics of virus-specific immune responses in latent HTLV-1 asymptomatic carriers

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Background: Human T-cell leukemia virus type-1 (HTLV-1) induces chronic, long-term persistent infections and can cause serious diseases, including adult T-cell leukemia. In the asymptomatic carrier phase of infection, substantial proviruses are detected in lymphocytes. However, HTLV-1 viral replication is controlled and HTLV-1 production is poor. Virus-host immune interaction has not been fully elucidated.
This study investigated the relationship between HTLV-1 proviral loads and virus-specific immune responses in asymptomatic carriers.
Methods: Seventy-seven asymptomatic carriers seeking medical care at the Institute of Medical Science Health Facility, University of Tokyo, Japan, were enrolled. Virus-specific antibodies were evaluated by line immunoassay and by measurement of syncytia inhibition. Peripheral blood mononuclear cells (PBMCs) were employed to assess T-cell responses through flow cytometric analysis.

Results: Neutralizing antibody responses were significantly higher in individuals with higher anti-Env SU (gp46) antibody levels and positively correlated with proviral loads. Overnight *ex vivo* culture of PBMCs resulted in detectable HTLV-1 Gag antigen (p19) expression in $CD4^+$ T cells and interferon-γ (IFN-γ) induction in $CD8^+$ T cells. Frequencies of these p19-expressing $CD4^+$ T cells and non-specific IFN-γ-induced $CD8^+$ T cells were positively correlated with proviral loads, respectively. Tax-specific $CD8^+$ T-cell frequencies were not associated with proviral loads but inversely correlated with the ratios of p19-expressing $CD4^+$ T-cell frequencies to proviral loads, implying involvement of Tax-specific $CD8^+$ T cells in the control of HTLV-1 replication.

Conclusions: Our results implicate Tax-specific $CD8^+$ T cells in the control of HTLV-1 replication. This study provides insights into the elucidation of the virus-host immune interaction in latent HTLV-1 infection.

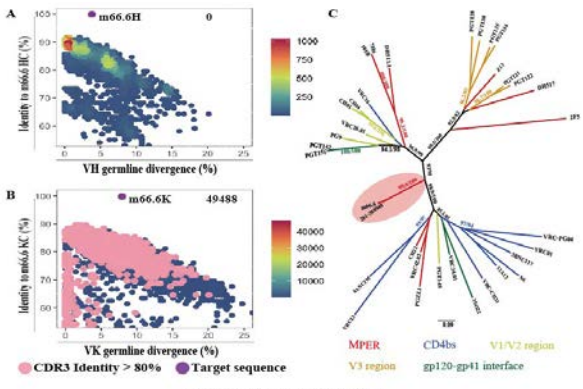
EP0025

Identification of HIV-1 MPER-specific antibody from the BCR repertoire of a HIV elite neutralizer

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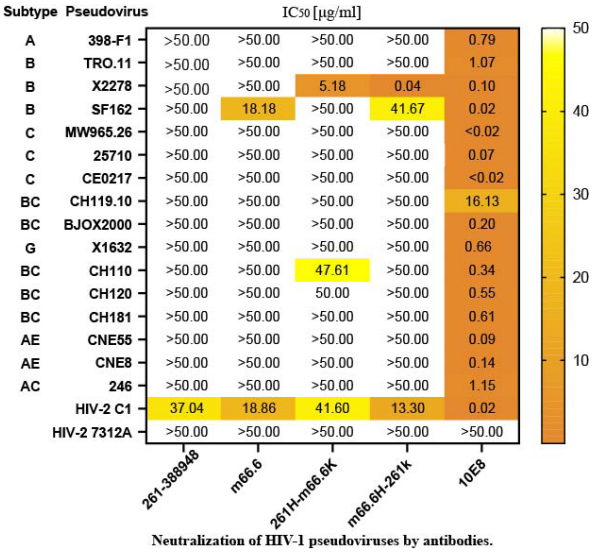
Background: To identify HIV-1 MPER-directed neutralizing antibody from BCR repertoire of an elite neutralizer and study the neutralization activity of the antibody.

Methods: BCR repertoire of an elite neutralizer CBJC261 was obtained by 5'RACE-PCR and non-bias next-generation sequencing. The heavy chain and light chain of m66.6-like antibody was screened by two-dimensional identity/divergence analysis from the repertoire. Then the antibody was expressed by transfection of heavy chain and light chain expression plasmids into 293F cells and purified using protein A column. The binding activity and neutralizing activity of produced antibody was measured with ELISA and pseudotyped virus-based neutralization, respectively.



CBJC261 Antibody library characteristics.
A-B. Two-dimensional identity/divergence analysis of CBJC261 antibody. Color represents sequence density;
C. Maximum likelihood (ML) tree of HC variable regions of bnAbs, colored by Env epitope.

Results: Antibody 261-388948 was screened from the BCR library of donor CBJC261 . This antibody shares IGHV 5-51 and IGKV 1-39 with another 2F5-like MPER bNAb m66.6, but presents a lower somatic hyper-mutation rate (0.35% for V_H and 1.34% for V_L). The amino acid identities of V_H and V_L between 261-388948 and m66.6 are 90.8% and 90.42%, respectively. 261-388948 showed a MPER-directed neutralizing activity, and cross-matching of heavy chain and light chain between 261-388948 and m66.6 produced antibodies with enhanced neutralization activity.



Neutralization of HIV-1 pseudoviruses by antibodies.

Conclusions: In this study, an MPER-directed neutralizing antibody 261-388948 was obtained by BCR library screening. 261-388948 has lower somatic hyper-mutation rates, meaning lower neutralizing activity but easier induction capability.

This study may be instructive for the study of MPER-specific bNAbs evolution and provide clues for future vaccine design.

EP0026

Incremental epitope breadth and depth changes in HIV-1 specific CD8 T-cell responses to primary subtype-C HIV-1 natural infections associated with better CD4-count and viral-load outcomes in antiretroviral therapy naïve individuals.

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Background: Host factors in people living with HIV (PLWHIV) with different rates of disease progression have provided important clues for vaccine design. The comparative characterisation of HIV-1 specific CD8 T-cell responses in PLWHIV with relatively better disease outcomes is crucial in determining effective HIV-specific immune responses. Such characterisations can inform innovative vaccine strategies aimed at improving the weak protection offered by current HIV vaccines.

In this study, we set to characterise CD8 T-cell responses in natural infection that can be attributed to better disease outcomes.

Methods: PBMCs were isolated from blood samples collected with written consent from PLWHIV after primary HIV-1 subtype-C infection and ART naïve at sampling times. Using IFN-γ ELISPOT, we assessed CD8 T-cell sample responses to HIV-1 subtype-C gag antigen peptides multivalently complemented to capture major epitope variants in circulating viral strains within the sampling population.

We compared the epitope breadth and depth of HIV-1 specific responses using same individual samples (n=15) collected at 3-6mon and 9-12mon post estimated date of infection.

Results: We analysed for CD8 T-cell response magnitudes above a pre-specified positive-response threshold of ≥ 38 SFU/10^6 cells. Significant high T-cell responses were observed with 3-6mon samples (mean SFU/10^6 cells ± SD; 874.01±1204.10 vs 474.34±469.90) accompanied by the identification of more epitope/variants with 3-6mon sample responses (mean breadth and depth: 5 vs 4 and 11 vs 9). However, CD4 counts, an indicator of immune function and status, was averagely similar between the two comparator sampling time points.

Further analysis showed a differential loss (n=10) and gain (n=5) in antigen specific CD8 T-cell from 3-6mon to 9-12mon sampling times. A gain in antigen specific CD8 T-cell responses was further indicated with improved CD4 and VL measures at 9-12mon (3-6mon to 9-12mon, mean±SD comparisons, CD4 counts: 531.80±229.59 to 677.90±99.27 compared to 718.90±256.75 to 592.90±165.37; Log10 VL: 4.30±0.46 to 3.60±0.57 compared to 3.61±0.67 to 3.97±0.35).

Conclusions: These results offer critical insight into strategic development of prime-boost T-cell vaccine regimen on the induction of high response magnitudes with an augmented boost that effectively administrates additional epitopes with the initial priming antigenic determinants.

Understanding and targeting persistent HIV reservoirs

EP0027

Latent reservoir size in virologically suppressed people living with HIV is associated with age and HIV subtype

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Background: HIV latent reservoirs persist despite suppressive ART, posing a major barrier to cure efforts. These reservoirs contain both intact and defective proviruses, with a fraction capable of reactivating upon ART interruption. Accurately quantifying reservoir size, particularly in non-B subtypes, is crucial for advancing cure strategies.

In this study, we measured unspliced cell-associated HIV RNA to assess transcriptionally active reservoirs in virologically suppressed people living with HIV (PLWH) in Ghana.

Methods: This quantitative study was conducted in a cohort of adults living with HIV who are on ART, with most achieving viral suppression. Whole blood samples were collected from 170 PLWH across three major hospitals in Accra, Ghana. Total nucleic acid was extracted from peripheral blood mononuclear cells (PBMCs), followed by DNase treatment to isolate HIV RNA. The HIV reservoir size was assessed using the cell-associated RNA technique, with reverse transcriptase quantitative polymerase chain reaction (RT-qPCR) employed to quantify unspliced RNA copies. Data analysis was performed using Microsoft Excel and GraphPad.

Results: For unspliced RNA, a larger reservoir was observed in individuals aged (³40) 40 years and older, whereas the opposite was true for proviral DNA (p = 0.012, 0.002). No significant difference was found in the unspliced reservoir size between females and males compared to their proviral reservoir (P = 0.15, 0.80). Individuals with the CRF02_AG subtype exhibited no significant difference in unspliced reservoir size compared to those with HIV subtype B.(0.070). However, a significant difference was noted in the proviral reservoir size, with those harboring CRF02_AG subtypes showing a higher reservoir size.

Conclusions: Age and HIV subtype influence reservoir size, with older individuals showing a higher unspliced RNA reservoir and CRF02_AG having a larger proviral reservoir. These findings underscore the need for age- and subtype-specific approaches in HIV cure strategies. Further studies should explore the mechanisms driving these differences.

EP0028

Increasing uptake of siRNA delivery vehicles in cells of the HIV latent reservoir through antibody conjugation

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Background: The latent viral reservoir is a major barrier to an HIV cure. The reservoir persists for the lifetime of the host, is inaccessible to antiretroviral therapy and can re-activate when therapy is interrupted. One approach to tackle this is by using RNA therapeutics to keep the latent viruses permanently suppressed. However, the reservoir involves multiple cell types, including CD4+ T cells, macrophages and brain cells, and are located in multiple tissues and organs throughout the body. Thus, any treatment or cure strategy aimed at the latent reservoir will require specific strategies to direct them to the target cells.

To address this, we aim to improve the targeted delivery of polymer nanocapsules (capable of carrying RNA therapeutics) to CD4+ cells, macrophages, astrocytes and microglia by antibody coupling.

Methods: Ten surface receptors were assessed as targets: four CD4+ T cell, three macrophage and three astrocyte and microglia receptors. Antibodies to these receptors were tagged with azide groups and reacted with dibenzocyclooctyne-tagged fluorescent nanocapsules via copper-free click chemistry. The antibody-tagged nanocapsules were added to peripheral blood mononuclear cells (PBMCs) or monocyte-derived macrophages from healthy donors or human astrocyte (SVG) and microglia (HMC3) cell lines and analysed by flow cytometry for uptake, cell viability and surface receptor expression. *In vivo* biodistribution of two lead candidate targets was assessed in healthy BALB-c mice.

Results: Increased uptake of all antibody-conjugated nanocapsules was observed compared to unconjugated nanocapsules, with no significant effect on cell viability or surface receptor expression. One CD4+ T cell targeting antibody showed targeting potential, with increased uptake in CD4+ cells two times more than other cell types in PBMCs. Two targets doubled uptake in microglia compared to other targets.

Greater biodistribution with improved target cells binding was reported for targeted nanocapsules, observed in heart, liver, spleen, lung, kidney and brain of mice compared to unconjugated nanocapsules, which accumulated in liver and kidneys.

Conclusions: These preliminary results show that antibody targeting increases nanocapsules uptake in CD4+ cells, macrophages and brain cells, while reducing non-specific delivery. This will be highly advantageous in delivery of RNA therapeutics as an HIV cure block and lock strategy for maintaining HIV latency.

Novel treatment and prevention strategies, vaccines and immunotherapies

EP0029

GRP78-CAR-T cells display HIV-specific cytolytic activity in vitro

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Background: Evidence suggests that HIV-specific T cell responses are essential for HIV control and potentially also for cure strategies. We posited that chimeric antigen receptor (CAR)-T cell therapies, which have shown promise in cancer, might also serve as a potent therapeutic approach for HIV. Glucose-regulated protein 78 (GRP78) is the main regulator of endoplasmic reticulum (ER) stress response triggered by unfolded polypeptides. HIV replication induces ER stress, thereby upregulating GRP78 on the cell surface.

Hence, we hypothesized that CAR-T with GRP78 recognition domain (PEP42) would lead to the selective elimination of HIV-infected cells in vitro.

Methods: T-cells from three donors were transduced with an SFG retroviral vector to generate GRP78-CAR-T (1x-CAR-T). As control, T cells were transduced with a GRP78-CAR construct lacking the CD28.CD3ζ signaling domain (Δ-CAR-T). Cytolytic activity was assessed against HIV-1 (NL4-3) infected autologous CD4 (+) T cells in co-culture. Targets were labelled with a fluorescent dye for flow-cytometric distinction. The cytolytic activity of the 1x-CAR-T cells was determined by comparing the percentage of p24 (+) target cells to the no-effector and Δ-CAR-T cell added groups. Free PEP-42 ligand was added to see competitive blockage of target recognition for further demonstration of specificity.

Results: Expansion rates for 1x- and Δ-CAR-T were 28±10.6 (mean±SD) and 28.3±16 fold, respectively (p=0.978). CAR expression for 1x- and Δ-CAR-T were 78%±26% and 67.7%±21.1%, respectively (p=0.623). After overnight co-culture, the percentage of p24 (+) fraction was 14%±5.2%, 3.3%±1.6%, and 11.3%±2.6% in no-effector, 1x-, and Δ-CAR-T cell added groups, respectively.

When normalized according to the no-effector added group, these percentages corresponded to 70%±27% and 14%±16.5% cytolytic activity by the 1x- and Δ-CAR-T cell groups, respectively (p=0.022). Moreover, adding free peptide reduced cytolysis to 15.6%±20.3% by the 1x- effectors (p=0.033).

Conclusions: Cell surface GRP78 increases during active HIV replication. Here, we show p24-specific cytolytic activity of GRP78-CAR-T cells in vitro. Future work will include in vivo and IND-enabling studies.
In sum, these results suggest that the development of novel CAR-T cell targeting the HIV reservoir via cell surface ER stress molecules could contribute to HIV cure efforts.

EP0030

Exploring the synergistic potential of Atripla® in mitigating the combined effects of protein malnutrition and chronic alcohol intake on rat epididymis

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Background: HIV/AIDS, alcoholism and protein malnutrition are significant public health challenges that continue to coexist in resource-poor African regions. Both chronic alcohol use and protein-deficient diets are established male infertility agents, raising concerns about their combined effects on reproductive health of people on antiretroviral treatment.
This study investigated the *in-vivo* effects of Atripla® and ethanol co-administration in the epididymis of protein malnourished rats.
Methods: Sixty-four adult male Sprague-Dawley rats were randomised into two diet groups: normal protein (NP, 23%) and low protein (LP, 6%) groups. Each diet group was further divided into four sub-groups (eight rats each). Under both normal and low protein diet groups, the first group served as control (NPC, LPC) receiving distilled water only.
The second group received Atripla® (ATp) only [NPATp, LPATp], the third group received ethanol (E) only [NPE, LPE] and the fourth group received both ATp and E (NPEATp, LPEATp). Atripla® (27.5 mg/kg body weight per rat) was administered orally once-daily using gelatine. 6% ethanol in distilled water was provided *ad libitum* to respective groups.
After ninety days of treatment, the rats were euthanized and epididymides harvested for histology. Qualitative and quantitative analyses for morphometry and androgen receptor immunoreactivity (AR-ir) were conducted.
Results: Inflammatory infiltrates, fibrosis and sparse luminal sperm concentration were observed in all treatment groups relative to the study control group (NPC). Incidence and severity in tissue alterations was higher among LP compared to NP groups with alterations being mild, moderate and severe in LPATp, LPATpE and LPE groups respectively. Group LPE had significantly reduced epididymal tubular diameter and epithelial height values relative to NPC and LPC ($P<0.001$), while all morphometric values for NPATp and NPATpE, LPATp, LPEATp groups were comparable to group NPC.
Weak and significantly reduced AR-ir was recorded in LP treated groups compared to NP treated groups though LPATp and LPATpE groups had values higher than LPE ($P<0.05$, ANOVA).
Conclusions: Atripla®, ethanol and/or protein malnutrition are risks for epididymal tissue derangements. However, the effect of Atripla® was mild and protective of the impact of ethanol and protein malnutrition. This shows success of single-pill therapy in mitigating adverse effects and warrants further investigation.

EP0031

Development and characterization of a novel HIV vaccine candidate using SpyTag/SpyCatcher technology to decorate virus-like particles displaying native-like Env trimers

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Background: Despite decades of effort, an effective HIV vaccine has yet to be developed. Recent advances in structure-based antigen design and protein engineering have opened up new possibilities for vaccine development. In this study, a novel candidate for an HIV vaccine is explored that employs virus-like particles (VLPs) made up of hepatitis B surface antigen (HBsAg) decorated with HIV envelope (Env) single-chain trimers.
The innovative use of SpyTag/SpyCatcher technology allows antigens to attach covalently to VLPs, which can increase immunogenicity.
Methods: We developed a VLP-based vaccine by fusing SpyCatcher to HBsAg and SpyTag to HIV Env in single-chain triple tandem trimers (TTT) configuration, in which three Env protomers are genetically linked in a single open reading frame and express as native-like trimers. Recombinant proteins were expressed in Expi293 cells and purified via GNL chromatography. VLP assembly and Env trimer coating were verified by Western blotting, negative-stain electron microscopy.
Antigenicity will be tested against a panel of commonly used bnAbs, and immunogenicity studies will be initially conducted in BALB/c mice.
Results: Stable VLPs displaying HIV Env trimers were produced and characterized. Electron microscopy demonstrated particles in ~50 nm in diameter, displaying Env spikes that are clearly visible. Western blot confirmed the covalent attachment of Env trimers to HBsAg VLPs using the SpyTag/SpyCatcher interaction. The binding and neutralizing activity of sera elicited in the BALB/c mice will be presented.

Conclusions: This study provides a promising approach for HIV vaccine design by combining the immunogenicity of VLPs with the structural integrity of native-like Env trimers. This novel HIV vaccine candidate using SpyTag/SpyCatcher technology to coat virus-like particles displaying native-like Env trimers will be co-administered with the T-cell HIVconsvX vaccine candidate for induction of combined antibody and killer T-cell immune responses.

EP0032

Combining generative AI, machine learning, and structure-based drug design to develop potent HIV-1 reverse transcriptase inhibitors

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Background: The era of generative AI in drug design is here, and in this study, we applied a generative AI model to design potential non-nucleoside inhibitors of HIV-1 reverse transcriptase (RT). RT is a critical enzyme in the HIV replication cycle, responsible for converting viral RNA into DNA, a process essential for the virus to integrate into the host genome. Inhibiting RT is vital for stopping viral replication and limiting the disease progression. However, drug resistance has highlighted the need for new and effective inhibitors.
Methods: Using the REINVENT prior model, we fine-tuned it with classified RT inhibitors (pIC50 > 7.0) from ChEMBL, generating over 10,000 novel compounds. These compounds underwent rigorous filtering, including classification by a Message Passing Neural Network (MPNN), PAINS filtering, pharmacophore modeling, structure-based screening (HTVS, SP, XP), MMGBSA scoring, and ADMET prediction.
Results: We identified five top-performing compounds (Compound 2877, Compound 1142, Compound 780, Compound 960, and Compound 63), which demonstrated superior docking scores (≤ -13.372 kcal/mol) and binding free energies (MMGBSA dG Bind ≤ -77.48 kcal/mol) compared to the co-crystallized reference ligand (-8.424 kcal/mol). ADMET predictions revealed that these compounds were non-carcinogenic, highly drug-like (QED), and had better synthetic accessibility (SAScore) than the reference ligand.

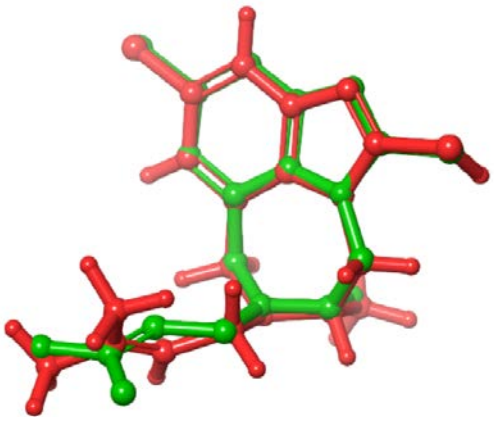


Figure 1: Redocking of the cocrystallized ligand by Glide (RMSD > 2.0).

Title	Fitness	docking score (kcal/mol)	MMGBSA dG Bind (kcal/mol)
Compound 2877	1.616	-13.372	-77.48
Compound 1142	1.981	-13.155	-67.01
Compound 780	1.733	-13.137	-69.2
Compound 960	1.299	-13.106	-76.49
Compound 63	1.636	-13.103	-69.54
Cocrystallized ligand	2.734	-8.424	-75.39

Table 1: Docking, Fitness and MMGBSA scores of the top compounds and reference.

Conclusions: These findings suggest that the identified compounds are promising candidates for further *in vitro* validation to confirm their inhibitory activity, selectivity against HIV-related proteins, and therapeutic potential. This study highlights the transformative role of AI-driven drug discovery in addressing HIV drug resistance.

EP0033

Silver nanoparticles capped with Sutherlandia frutescens showed anti-HIV, anti-bacterial and non-cytotoxicity in different human cell lines

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Background: This research aimed to evaluate the cytotoxicity and antiviral potential of green-synthesized silver nanoparticles (AgNPs) capped with Sutherlandia frutescens in various human cell lines and their antibacterial activity against gram-positive bacteria.
The study aimed to investigate the potential of these nanoparticles as an alternative therapeutic strategy for HIV-1 treatment, addressing concerns related to drug resistance, toxicity, and the persistence of viral reservoirs.
Methods: Silver nanoparticles were synthesized using a plant extract of Sutherlandia frutescens. The morphological, structural, and functional properties of the synthesized nanoparticles were characterized by UV spectroscopy, SEM,TEM, XRD, and FTIR spectroscopy. Cytotoxicity and cell viability of the SF-AgNPs, Sutherlandia frutescens plant extract, and silver nanoparticles (chemically synthesized) were assessed using the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay across multiple human cell lines (Astrocytes, HepG2, 293T and TZM-bl). The antiviral activity of the SF-AgNPs was evaluated using a luciferase assay on HIV-1 cells. The minimal inhibitory concentration (MIC) of SF-AgNP was determined against Staphylococcus aureus and Staphylococcus epidermidis.
Results: The synthesized silver nanoparticles exhibited a round and spherical shape with an average size of 24nm (TEM) with an absorbance peak at 520 nm (UV-Vis). The biosynthesized silver nanoparticles were surface stabilized by polyphenolic compounds (FTIR). SF-AgNPs maintained more than 80% of cell viability across the TZM-bl, 293T, HepG2 cell line except for astrocytes, with 63.9%. SF-AgNPs demonstrated low cytotoxicity with CC50 of 10.94 µg/ml (TZM-bl), 1.476 µg/ml (293T), 0.0793 µg/ml (As-

trocytes), 0.07179 µg/ml (HepG2). The SF-AgNPs exhibited 100% inhibition of HIV-1 at the highest concentration tested (972 µg/mL) in vitro with an IC50 of 0.2142 µg/mL. The SF-AgNPs exhibited effective activity against Staphylococcus epidermidis (MIC = 7.59 µg/mL) and Staphylococcus aureus (MIC = 15.18 µg/mL).

Conclusions: Silver nanoparticles capped with Sutherlandia frutescens showed potent antiviral activity against HIV owing to the phytochemicals present in the Sutherlandia frutescens. These nanoparticles were also potent against gram-positive bacteria Staphylococcus aureus and Staphylococcus epidermidis.

The findings indicate that integrating bioactive compounds from Sutherlandia frutescens into silver nanoparticles presented a promising therapeutic strategy for HIV treatment as it exhibited significant, dose-dependent antiviral activity against HIV-1. Therefore, it demonstrates potential as an effective alternative to current antiretroviral therapies.

EP0034

Safety profile of candidate HIV vaccines across clinical trial phases: a systematic review of global trajectory

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Background: Despite the widespread use of antiretroviral therapies, approximately 1.3 million people acquired HIV in 2023. Several HIV prevention strategies exist; however, the development of vaccines remains a critical tool in the global HIV response. To guide future vaccine development and regulatory approvals, a thorough assessment of the safety profile of the current vaccine candidates across clinical trial phases is important.

This systematic review examines the safety profile of HIV vaccine candidates in various clinical trials to determine their safety profiles.

Methods: An extensive literature search was conducted across multiple databases including, Google Scholar, PubMed, Web of Science and Scopus using appropriate keywords and Boolean operators. The articles were screened for eligibility and only clinical trials involving HIV-negative individuals were included. Quality of studies was assessed using the Newcastle-Ottawa scale and the results were synthesized narratively.

Results: Out of the 3,515 studies identified by the databases, 113 published between 1991 to 2024 met the eligibility criteria and were included in the study. The studies were majorly Phase I clinical trials (81 studies out of 113). Across the included studies, the age range of participants varied but 47 studies involved those within 18-60 years, with a nearly equal gender distribution. Notably, 97 studies reported positive immunogenicity outcomes with robust antibody and T-cell responses. Most studies (109/113) reported mild to moderate adverse effects such as pain, tenderness and swelling. Minor side effects such as fever, headache, fatigue, nausea, myalgia and malaise, resolving within hours to few weeks, were also frequently reported across the trials.

Some serious side effects such as atrial fibrillation, epilepsy, cancer, vitiligo, syncope, were reported in 20 studies, with some leading to the affected participants' withdrawal from the study, and even death. However, there is insufficient evidence that directly attributes these serious side effects to the vaccine candidates.

Conclusions: HIV vaccine candidates have demonstrated a favourable safety profile as adverse events were predominantly mild and moderate. Serious adverse events were rare and without a direct linkage to the vaccine. With the significant immunogenicity demonstrated, the vaccine is a promising tool for revolutionizing HIV prevention and requires further research.

EP0035

Toward an HIV cure: a review of the transformative potential of CRISPR/Cas9 in the quest for HIV cure

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Background: By 2020, around 38 million people worldwide were living with HIV. Despite advances in treatment, there are still no vaccines or cures for the disease. Antiretroviral therapy (ART) has been effective in reducing HIV-related illness and death but cannot eliminate latent HIV reservoirs. These reservoirs can reactivate if therapy is stopped, making HIV a lifelong condition.

Gene-editing technologies like CRISPR/Cas9 offer a groundbreaking approach to HIV treatment by directly targeting and removing proviral DNA. This method works by creating double-strand breaks in the DNA to disrupt viral genes. Early research targeting the HIV-1 LTR region has shown encouraging results in reducing viral replication.

This review discusses the latest advancements in using CRISPR/Cas9 for HIV therapy, its potential to achieve a functional cure, and the key challenges and future directions for this technology.

Methods: A Comprehensive literature review was conducted, focusing on studies and clinical trials published between 2015 and 2024 that used CRISPR/Cas9 for HIV treatment. Databases such as PubMed, Google Scholar, and Scopus were searched using keywords like "CRISPR/Cas9," "HIV cure," "gene editing," and "proviral excision."

Studies were analyzed across in vitro, in vivo, and human clinical trials, focusing on mechanisms, outcomes, and challenges.

Results: CRISPR/Cas9 has shown promising results in HIV-1 research:

- **In Vitro Studies:** The technology successfully targeted and removed HIV-1 proviral DNA from affected human cells, disrupting key viral genes and significantly reducing viral replication.

- **In Vivo Studies:** Humanized mouse models demonstrated effective removal of integrated HIV-1 DNA, leading to reduced viral loads. Studies in non-human primates further supported its potential for clinical use.
- **Human Clinical Trials:** Early trials of EBT-101, a CRISPR-based therapy, showed that it was safe and well-tolerated. However, viral rebound after discontinuing ART emphasized the need for further optimization.

While CRISPR/Cas9 shows potential, challenges include delivery systems, off-target effects, viral diversity, and immune responses.

Conclusions: CRISPR/Cas9 presents a promising pathway for eradicating HIV-1 by targeting and excising proviral DNA. Yet, challenges like delivery efficiency, unintended genetic changes, and the variability of the virus need to be addressed. Continued research and innovation will be crucial to overcoming these barriers and achieving a functional HIV cure.

EP0036

Emerging patterns of drug resistance in HIV-1 subtypes to integrase strand transfer inhibitors at Arthur Davison Children's Hospital, Ndola, Zambia

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Background: Understanding the prevalence of HIV-1 subtypes and their associated drug resistance mutations is essential for optimizing antiretroviral therapy (ART) and enhancing treatment and prevention outcomes. Zambia is among the first countries in sub-Saharan Africa to introduce Cabotegravir (CAB-LA), a long-acting Integrase Strand Transfer Inhibitor (INSTI), for HIV prevention.

The study aimed to determine the distribution of HIV-1 subtypes and the prevalence of resistance-associated mutations to INSTIs in the Zambian population among individuals living with HIV and receiving ART.

Methods: This cross-sectional study enrolled 210 participants living with HIV suspected of treatment failure whose samples were referred to Arthur Davison Children's Hospital in Ndola, Zambia, for drug resistance testing between January 2022 and December 2024. Subtype and resistance mutation analyses were conducted using the Stanford University HIV Drug Resistance Database. Statistical analyses were performed using SPSS version 22.

Results: Among the 210 participants, 126 (60%) successfully amplified for analysis. Of these, 98.41% were classified as HIV-1 subtype C, while subtypes A1 and F were each detected in 0.79% of cases. The median age of participants was 35 years, with females comprising the majority (58%). Resistance mutations were identified with varying prevalence. The most common mutation was E138K (15.9%), followed by G118R (12.7%) and T66A/I/T (7.9%). Additional mutations observed included R263K/R (6.3%), E157Q (6.3%), S147G (4.8%), H51Y (3.2%), T97A (3.2%), G140A (2.4%), N155H (2.4%), E92Q (1.6%), Q148K (1.6%), L74M (1.6%), T122N (0.8%), and S153CG (0.8%).

Conclusions: This study highlights the predominance of HIV-1 subtype C among participants, consistent with regional epidemiological trends. The high prevalence of resistance-associated mutations, particularly E138K and G118R, underscores the need for routine resistance testing to guide ART decisions.

The detection of multiple mutations suggests potential challenges in managing treatment failure, emphasizing the importance of continuous surveillance and tailored therapeutic strategies to mitigate the impact of drug resistance on treatment outcomes.

EP0037

Safety and acceptability of synthetic HIV DNA plasmid vaccine delivery via intradermal electroporation

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Background: Skin is an alternative vaccine administration site to muscle. An electrical pulse applied after injecting into skin, called intradermal electroporation (ID-EP), facilitates entry through temporary pores in cell membranes. Safety and acceptability of HIV DNA plasmid vaccines administered with ID-EP was evaluated.

Methods: HVTN 305, phase 1 open-label randomized trial conducted at six sites in South Africa and USA, enrolled adults without HIV. At months 0, 1, and 3, participants received two bilateral intradermal vaccinations of INO-6172 (synthetic DNAs encoding the GT8 nanoparticle and Interleukin-12) at 0.5mg in group 1 (n=10) or 2mg in groups 2 (n=18) and 3 (n=18), followed by ID-EP using Inovio CELLECTRA 2000 device.

Group 3 also received 100mcg Trimer 4571 (BG505 DS-SOSIP.664 gp140 Envelope protein) intramuscularly (IM), adjuvanted with 5mcg 3M-052 AF / 500mcg alum at months 3 and 6. Solicited adverse events (AEs) were reported within 14 days, unsolicited AEs within 30 days, serious AEs (SAEs), adverse events of special interest (AESIs) and medically attended adverse events (MAAEs) until month 18. 26 South African participants completed EP acceptability questionnaires at vaccination timepoints.

Results: We enrolled 46 participants, median age 25 years (IQR=9), 61% males. No AEs were fatal or life threatening. Severe solicited AEs included fatigue n=6 (13%), headache n=6 (13%), myalgia n=4 (9%), pain n=3 (7%), chills n=3 (7%), and arthralgia n=2 (4%). Twenty-six participants (57%) reported unsolicited AEs, 12/26 were MAAEs, 2/26 (8%) graded moderate and related to study product (decreased neutrophils and loss of appetite). One (4%) severe unrelated AE (increased creatinine) was noted (Table).

No SAEs or AESIs were reported. Among 26 participants who answered questionnaires, 1 was excluded due to study product discontinuation, 23/25 (88%) indicated willingness to repeat EP, 24/25 (96%) indicated acceptable anxiety levels, and 23/25 (92%) reported acceptable skin reactions.

Participants who reported unsolicited AEs regardless of relationship to study product	Group 1 (n=10)	Group 2 (n=18)	Group 3 (n=18)	Total (n=46)
All	5 (50%)	8 (44%)	13 (72%)	26 (57%)
Mild	0 (0%)	2 (11%)	3 (17%)	5 (11%)
Moderate	5 (50%)	6 (33%)	9 (50%)	20 (43%)
Severe	0	0	1 (6%)	1 (2%)
Potentially life-threatening or fatal	0	0	0	0

Table. Participant summary of reported unsolicited AEs.

Conclusions: HIV DNA plasmid vaccine delivery via ID-EP was generally safe and South African participants found it acceptable. Immunogenicity evaluations are ongoing.

EP0038

The impact of drug transporters and genital inflammation on oral PrEP in HIV negative South African women

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Background: In sub-Saharan Africa new HIV infections occur mostly in adolescent girls and young women. Previously tested antiretroviral drugs as different pre-exposure prophylaxis (PrEP) formulations have shown inconsistent levels of protection against HIV infections in African women. Besides adherence, biological factors such as drug transporter proteins are increasingly recognized as key modulators of oral PrEP levels and effectiveness. Drug transporter expression has been significantly correlated to varied PrEP levels *in-vitro* in different tissues.

Additionally, inflammation has be identified as a further modifier of drug transporter expression possibly affecting PrEP levels.

Methods: We, therefore, aimed to determine possible concordance between drug transporter mRNA expression in the female genital tract (FGT) and blood of N=45 South African women (from CAPRISA Clinical Research Sites) taking oral PrEP-Truvada® [a combination of tenofovir-diphosphate (TFV-DP) and emtricitabine] over 6 months for HIV prevention.

Additionally, we determined associations between drug transporter mRNA expression, genital inflammation and blood-TFV-DP. The mRNA expression of four efflux drug transporters P-gp; MATE-1; MRP-2; MRP-4 and two influx drug transporters OAT-1 and OAT-3 relevant in HIV were determined by qRT-PCR. Multiplexed technology was used to measure 27 cytokines/chemokines to define genital inflammation.

Results: Significant correlations (positive) of mRNA expression for P-gp, MATE-1, MRP-2, and MRP-4 were observed between the FGT and blood at 3 and 6 months post-PrEP initiation ($p<0.05$). For OAT-1 however, significant correlations (positive) were observed pre- and post-PrEP initiation ($p<0.05$).

Linear-mixed models showed moderate associations between FGT cytokines and drug transporter mRNA expression, with a positive relationship observed between MIP-1β concentration and MATE-1 mRNA expression. PLS-DA likewise showed that in women with genital inflammation, consistently higher mRNA expression of MATE-1 was observed compared to women without genital inflammation. No significant associations were observed between drug transporter mRNA expression and blood-TFV-DP.

Conclusions: Our results suggest that drug transporter mRNA expression may be similarly affected in the FGT and blood with PrEP exposure. Furthermore, genital inflammation may alter efflux or influx drug transporter mRNA expression, thereby modifying PrEP levels.

Collectively, our data may be used to better understand biological factors that may affect or undermine PrEP efficacy in African women who remain vulnerable to HIV.

HIV-associated viruses, co-infections and co-morbidities

EP0039

HIV drives altered levels of exosome-carried onco-ncrnas from people living with HIV and cancer

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Background: Non-coding RNAs (nc-RNAs) are important regulators of gene expression that can be carried by extracellular vesicles (exosomes) and influence the progression of diseases such as HIV infection and non-AIDS defining cancer (NADCs). However, there is still unclear the potential role of the cargo profile of exosomal ncRNAs (exo-ncRNAs) in people living with both HIV and NADCs.
Methods: The transcriptomic landscape of plasma exo-ncRNAs was profiled by RNA sequencing (RNAseq) in 60 participants: 15 with HIV infection and NADCs (HIVNADC group), 15 with HIV only (HIV group), 15 with NADC only (NADC group), and 15 healthy control participants without HIV or cancer (HC group).
All HIV participants were under cART. Plasma exosomes were isolated by size exclusion chromatography and visualized and quantified by electron microscopy and nanotracking particle analysis. RNAseq was performed by NSG (NEBNext Multiplex small RNA library PrepSet, Illumina). RNAseq reads were aligned and quantified using RSEM and EdgeR software. Exo-ncRNAS were considered up or down- regulated if log2 fold-change (log2FC) >1 and <-1 respectively, in the pairwise comparison between study groups.
Results: All groups were matched in age, gender, CD4 T-cell count, time since cancer diagnosis and HIV diagnosis, and time on cART. The differentially expressed (DE) plasma exo-ncRNAs between pairwise comparison groups showed that the HIVNADC group had upregulation of SNORD3A (small nucleolar RNA) compared to the NADC group, (log2FC=3.62).
Additionally, when discriminating by cancer type, exo-miR-451a (micro-RNA) was upregulated in the HIVNADC brain cancer group compared to the NADC brain cancer group (log2FC=9.78). In contrast, the exo- miR-451a was downregulated in the NADC brain cancer group compared to the HIV group (log2FC=-11.27).
Interestingly, both SNORD3A and miR-451a ncRNAs have previously been suggested to play diverse roles in cancer development and progression.
Conclusions: The upregulation of exosome-derived SNORD3A and miR-451a (described as tumorigenic) in people living with both HIV and cancer suggests that HIV infection may play an important role in the dysregulation of "onco-ncRNAs" influencing a worse outcome in those patients with NADCs.

EP0040

Effect of HIV on and IL18 on osteoclastogenesis: implications for low bone density in people living with HIV

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Background: Adolescents living with HIV (ALWH) experience low bone density, increasing long-term fracture risk. We previously showed elevated inflammation in ALWH, with IL18 associated with increased bone density. This study investigates whether HIV affects osteoclast differentiation *in vitro* and if IL18 mitigates this effect.
Methods: CD14+ monocytes from healthy human donors were stimulated with receptor activator of nuclear factor-kB ligand (RANK-L) and macrophage colony stimulating factor (MCSF) for nine days. Cells were infected with vesicular stomatitis virus-g (VSV-g)-pseudotyped NL4.3 HIV, MOI=1 and stimulated with IL18 or TNFα (positive control) at 10ng/ml or 50ng/ml. Osteoclastogenesis was assessed by tartrate-resistant acid phosphatase staining, defining osteoclasts as cells with ≥3 nuclei. Flow cytometry measured early (CD9 and RANK) and mature (CD51/61 and CD63) osteoclast surface receptors. Early HIV infection of monocytes (day one) *vs.* late infection of committed osteoclasts (day six) were compared and the IL18-effect analyzed using paired Wilcoxon signed-rank tests.
Results: HIV reduced osteoclast numbers by mean±SD 0.77±0.23-fold (p=0.004) and 0.33±0.31-fold (p=0.005) with early and late infection, respectively. Early infection increased mature osteoclasts 4.01±2.15-fold (p=0.031) but had no effect on early osteoclasts compared to late infection. Larger osteoclasts were observed in late infection compared to early (Figure 1).
IL18 (10ng/ml) increased mature osteoclasts by 1.50±0.54-fold (p=0.044) in uninfected cells, which was greater than the TNFα effect (10ng/ml) (1.13±0.30-fold, p=0.636). In HIV-infected cells, IL18 showed dose-dependent trends of increasing osteoclast numbers (10ng/ml: 1.76±1.71-

fold (p=0.052); 50ng/ml: 2.57±3.24-fold (p=0.074)), which was also observed in the mature osteoclast phenotype (10ng/ml: 1.12±0.23-fold (p=0.124); 50ng/ml: 1.07±0.44-fold (p=0.402)) compared to non-IL18-stimulated HIV-infected cells.

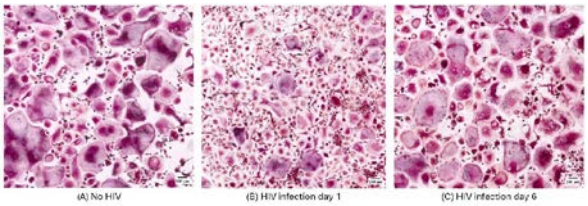


Figure 1: Representative image of osteoclast differentiation with different days of infection compared to no infection. CD14+ monocytes cultured with M-CSF and RANKL cytokines every 3 days for 9 days. Tartrate-resistant acid phosphatase staining of osteoclasts under different conditions (A) no HIV infection (B) HIV infection on day 1 for 24 hours (C) HIV infection on day 6 for 72 hours. MOI of 1. NL4-3 VSVg-pseudotyped strain. Staining performed on day 9 for all conditions.

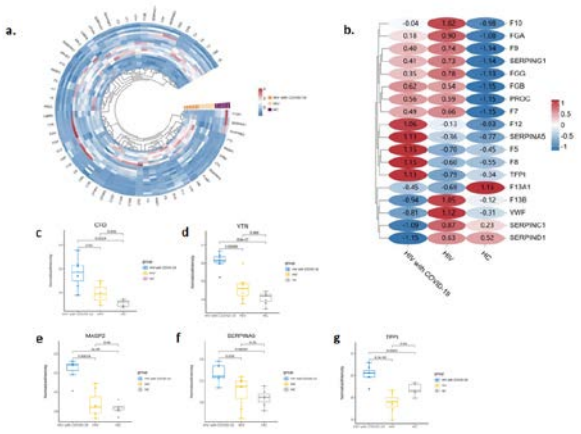
Conclusions: HIV decreases osteoclast number, but favours mature osteoclast morphology, which may contribute to lower bone density in ALWH. IL18 appears to exacerbate rather than mitigate these effects, supporting chronic underlying inflammation as a mechanism for poor bone health.

EP0041

Plasma proteomic profiling of hospitalized HIV patients co-infected with SARS-CoV-2

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Background: COVID-19 is an infectious disease caused by the SARS-CoV-2, which has resulted in the most devastating pandemic in modern history. HIV destroys immune system cells and weakens the body's ability to resist everyday acquisitions and diseases. Furthermore, HIV-acquired individuals have doubled risk of COVID-19 mortality and experience worse COVID-related outcomes.
The aim of our work was to illustrate plasma proteomic profiling in HIV-positive clients hospitalized with SARS-CoV-2 acquisition.
Methods: Liquid chromatography-tandem mass spectrometry was used to examine plasma protein alterations in seven hospitalized HIV clients co-acquired with SARS-CoV-2, along with seven SARS-CoV-2 PCR-negative HIV clients and seven healthy controls as comparison groups. GO terms and KEGG pathways enrichment analysis were performed on the differentially expressed proteins.
Results: Compared with healthy controls, 477 proteins were significantly upregulated and 783 proteins were significantly downregulated in the plasma of HIV clients with COVID-19. Compared to HIV-only clients, 671 proteins were significantly upregulated and 173 proteins were significantly downregulated in the plasma of HIV clients with COVID-19. The GO terms and KEGG pathways associated with DEPs were highly enriched in processes involved in inflammation, immune cell migration and degranulation, and the most prominent term was complement and coagulation cascades. Several proteins related to complement and coagulation cascades have been shown to be dysregulated in HIV clients with COVID-19, for example, CFD, MASP2, VTN, TFPI and SERPINA5. We also identified several clusters of DEPs associated with SARS-CoV-2 acquisition, including viral receptors and proteases, transcription factors and kinases.



Conclusions: In summary, we have quantified 5,373 proteins in plasma from HIV clients with COVID-19 and identified 1,282 significantly dysregulated proteins compared to non-COVID-19 clients. This proteomic atlas has uncovered potential molecular targets, signaling pathways, small molecular compounds, and promising biomarkers in HIV and SARS-Cov-2 co-acquisition. These findings may contribute to more precise diagnosis and treatment for HIV clients with COVID-19.

EP0042

The impact of HIV and hepatitis B Co-infection on T-cell immune activation, exhaustion biomarkers, and reservoir size among virologically suppressed people living with HIV in Ghana

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Background: The burden of HBV is higher in HIV-endemic regions, with an estimated prevalence of 7-15% or higher. Due to their similar route of transmission, HBV/HIV co-infection is higher in sub–Saharan Africa. Co-infections complicate disease progression and lead to higher mortality rates in HIV, but their impact on T-cell responses and reservoir size is not well understood.
We hypothesize that compared to persons who acquired HIV-only, persons with HIV/HBV will have T cells that are more exhausted hence impact on the reservoir size. We

assessed the differences in T cell responses in persons with HIV/HBV and HIV or HBV only controls (adults >18 years) and measured their reservoir size.

Methods: We screened 390 archived plasma samples from people living with HIV (PLWH) for HBV, using a one-step multi-HBV test kit and selected HIV/HBV co-infected samples for this study. Archived peripheral blood mononuclear cells from these individuals and their paired HIV only counterparts, were stimulated with PMA and ionomycin, stained for activation and exhaustion markers (CD25, CD38, CD69, HLA-DR, PD-1).

Cytokine levels (IL-2, IFN-ɣ, TNF-α) were measured by flow cytometry and analyzed by FlowJo. The reservoir size was determined by RT-PCR using QuantStudio. Levels of these markers were compared among these groups, and healthy non-HIV/HIV controls using Mann-Whitney test.

Results: The prevalence of HBV/HIV was 7.9% (31/390). Females had higher CD4 counts compared to males P=0.003. We found higher levels of CD25+ and CD69+ expression on both CD4+ and CD8+ T cells in HIV/HBV acquired individuals compared to HIV or HBV only. Low levels of CD4+PD1+ and CD8+PD1+ expression on T cells were observed in HIV/HBV acquired persons, compared to HBV only and healthy controls.

However, Impaired cytokine production of IL-2 and TNF-α were observed in persons who acquired HIV/HBV compared to persons with HIV or HIV only. Reservoir size was different in males compared to females.

Conclusions: Differential expression of Immune activation and exhaustion markers was observed in virologically suppressed PLWH, an indication of ongoing residual viral production. The reservoir size was significantly different in HIVHBV co-infections compared to mono infections, although participants are virologically suppressed.

EP0043

High levels of anti-HHV-8 IgG binding capacity are linked with low HHV-8 viremia in people with and without HIV

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Background: The human herpes virus 8 (HHV-8) causes Kaposi Sarcoma (KS) and is linked with some type of B-cell proliferation disorders that develop upon aging and immunosuppression, including in people living with HIV (PLWH).

HHV-8 establishes latency in cellular and anatomical reservoirs in epithelial cells as well as B-cells. Factors controlling latency and replication remain seldomly described. We developed HHV-8 specific serological and virological assays to assess *ex-vivo* whether antibodies targeting HHV-8 could control replication.

Methods: Serum and cell lysate were obtained from cis and transgender men of the *Engage* cohort in Montreal. Participants with active KS (11 PWH on ART [HIV KS] and 11 HIV-negative classic KS [cKS]) were included from the McGill biobank. Circulating levels of IgG binding to BCBL1 HHV-8-infected cells were quantified by flow cytometry. CMV serology was assessed using commercial ELISA assays. Digital-droplet-PCR was used to assess HHV-8 DNA levels in blood extracts and biopsies.

Results: In absence of KS, HHV-8 seropositivity was higher in PWH than HIV-negative participants (67.5% *vs.* 41.8%, p<0.001). Moreover, in 106 HHV-8 seropositive participants, levels of anti-HHV-8 IgG were higher in PLWH than in 260 HIV-negative controls (median 1.5 vs 1.2AU, p=0.03). Levels of anti-HHV-8 IgG were negatively correlated with HHV-8 viremia in whole blood extracts (r=-0.48, p=0.004, n=46). Levels of anti-CMV IgG were not correlated with those of anti-HHV-8 IgG (r=0.09, p=0.42), and there was a similar frequency of CMV seroposivity between HHV-8 seropositive and seronegative participants (5.55 and 11% respectively) in HIV-negative participants.

Patients with KS were all seropositive for HHV-8. HIV KS had higher levels of anti-HHV-8 IgG levels than cKS (3.7 *vs.* 1.8AU, p=0.02). Interestingly, HIV KS had lower circulating HHV-8 viremia than cKS (695 *vs.* 8405 copies/10^6 cells,

p=0.04). However, HHV-8 DNA levels were similar in KS lesion biopsies for the 2 groups (HIV KS: 68.10^3 vs cKS: 323.10^3 copies/10^6 cells, p=0.89).

Conclusions: In both symptom-free carrier and KS patients, high levels of anti-HHV-8 IgG were associated with low circulating viremia, independently of ethnicity and CMV seroposivity. Whether higher anti-HHV-8 IgG levels contribute to prevent KS development should be further studied.

EP0044

Investigating the impact of respiratory viral superinfections on HIV-1 pathogenesis: insights from *in vitro* models of HIV-1/H1N1 and HIV-1/RSV superinfections

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Background: Respiratory viruses are frequent causes of acute respiratory illness in PLWH, particularly in HIV-endemic areas, and may influence HIV pathogenesis through poorly understood mechanisms. Given the limited information on respiratory viral infections in PLWH, *in vitro* models can help uncover the molecular dynamics of HIV and viral superinfections.

Methods: Herein, we developed *in vitro* models of HIV-1/H1N1 (H+H+) and HIV-1/RSV (H+R+) superinfections. Three days post HIV-infection (1 ng/1×10^6 cells of HIV-1_{BaL}) PBMCs from 10 healthy volunteers were co-cultured, in a 24 transwell plate, with a human lung epithelial cell line (CaLu3), infected with H1N1 or RSV (0.015 MOI). HIV-1, H1N1 or RSV replication was monitored by p24 ELISA and Real-Time PCR. Five days post HIV-1 infection, both PBMCs and CaLu3 cells were harvested for mRNA expression of antiviral/inflammatory factors by Real–time PCR. T lymphocyte subpopulations, along with Perforin-and IFNγ-producing CD8+ lymphocytes were investigated by flow cytometry.

Results: In the H+H+ superinfection, replication rate of H1N1 was significantly hindered in the presence of HIV-1 compared to H1N1-single infection (p=0.027). In Calu3 cells, the H+H+ condition exhibited a decline in the expression of several anti-viral factors, mainly RIG-I levels compared to H1N1-single infected cells (p=0.041).

Furthermore, a unique immunophenotype was identified in H+H+ PBMCs, characterized by higher percentages of Th2 lymphocytes (CD4+GATA3+, p=0.022) and lower frequencies of Th1 cells (CD4+Tbet+, p=0.05), compared to HIV-1-infected PBMCs.

Conversely, in the H+R+ superinfection, HIV-1 replication rate exhibited a marked increase in the presence of RSV in comparison to HIV-1-single infection (p=0.048). HIV-1-infected PBMCs exposed to RSV exhibited significant increased expression levels of IFITM1 (p=0.05) and IFITM3 (p<0.001), and higher expression levels of CCR5 compared to the other conditions. Increased frequencies in Th17 (CD4+RORγT+, p=0.05) and in IFNγ-producing CD8+ (p=0.023), along with a diminished expression of HLA-DRII on CD4+ lymphocytes (p=0.03), were observed compared to HIV-1 single-infected PBMCs.

Conclusions: These findings reveal virus-specific interactions: HIV-1 dampens H1N1 replication while RSV enhances HIV-1 replication, each shaping distinct immune responses. This underscores the importance of evaluating respiratory viral superinfections in PLWH and highlights *in vitro* models as valuable tools for understanding HIV-viral interactions and their impact on pathogenesis.

EP0045

Differentiating subclinical TB from clinical TB among people living with HIV on ART using predictive immunologic biomarkers

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Background: Subclinical tuberculosis (TB), defined as bacteriologically confirmed TB without classic clinical symptoms, remains a public health challenge, particularly in high-burden countries where it is often undetected by current TB screening tools. This leads to increased transmission and delayed treatment, complicating TB control efforts.

Methods: Participants were enrolled in the TB Recurrence Upon TB and HIV treatment (TRuTH) CAPRISA 005 study, a prospective longitudinal cohort enrolled at the CAPRISA eThekwini clinic in Durban, KwaZulu-Natal, South Africa.

The following definitions were adopted for this analysis:

1. Subclinical TB disease - a negative TB symptom screen, and identification of *Mycobacterial tuberculosis* (*M.tb)* by sputum smear or culture, and;
2. Clinical TB disease - positive TB symptom screen and identification of TB by sputum smear or culture.

Thirty inflammatory cytokines/chemokines were measured using Luminex-based methods and ELISAs in plasma specimens of 203 participants sampled 3-9 months prior to TB recurrence. Here we explored whether established predictive biomarkers of TB could differentiate subclinical TB from clinical TB.

Results: We evaluated immunological biomarkers in 203 people living with TB and HIV with a maximum follow-up of 4 years after a completed index episode of TB; 28 developed clinical TB, 17 developed subclinical TB, and 158 did not experience recurrence (No TB). Higher median plasma levels of sICAM were observed in participants with clinical TB compared to those with subclinical TB and no TB (p=0.004). We observed a dose-response with the highest sICAM levels observed in clinical TB, followed by

participants with subclinical TB who progressed to clinical TB disease, followed by participants who resolved spontaneously, and those with no TB.
In univariable models, a unit increase in log sICAM expression was associated with a 99% reduction in the odds of subclinical TB [odds ratio (OR): 0.01; 95% confidence interval (CI): 0.00 – 0.81, p=0.0408).
In multivariable models adjusting for HIV viral load and $CD4^+$ count, a unit increase in log IFABP expression was associated with an eight-fold higher likelihood of a subclinical TB diagnosis (OR: 8.26, 95% CI: 1.29 – 53.00, p=0.0261).
Conclusions: sICAM and IFABP levels may serve as useful indicators for distinguishing subclinical from clinical TB.

Emerging, re-emerging and neglected virus: epidemiology, pathogenesis, host immune responses, vaccines, immunotherapies and overlap with HIV acquisition

EP0046

Single-cell RNA sequencing reveals unique profiles in hRSV/SARS-CoV-2 co-infected A549-hACE2 epithelial cells

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Background: Respiratory co-infections caused by hRSV and SARS-CoV-2 may be associated with worse outcomes, but the underlying cellular and molecular mechanisms are poorly understood.
Using an *in vitro* model of hRSV and SARS-CoV-2 co-infection, this study aims to elucidate how individual cells respond to simultaneous or single infections, providing insights into synergistic/antagonistic viral interactions and disease pathogenesis.
Methods: Single-cell RNA sequencing (scRNA-seq) data of the A549-hACE2-expressing cell line, co-infected with hRSV and SARS-CoV-2 (MOI: 0.01) were analyzed 72 hours post infection. The expression of SARS-CoV-2 and hSRV-specific genes was examined simultaneously with cellular genes to determine the presence or co-presence of the viruses in each profiled cell.
Gene expression profiles of single/co-infected cells were used to identify specific cell markers and make functional inferences about the different cell states.
Results: Unsupervised clustering analysis of scRNA-seq data identified four distinct cell clusters:
1. Uninfected,
2. SARS-CoV-2-infected,
3. hRSV-infected, and;
4. SARS-CoV-2/hRSV co-infected cells.

Within Cluster 4, two sub-clusters were distinguished based on hRSV gene expression levels: 4a (low) and 4b (high).
Marker analysis revealed molecular signatures of protein-coding and long non-coding (lnc) RNA characterizing each of the four cell clusters. Specifically, co-infected cells showed altered expression of genes linked to viral defense (n=27; $P=6.2\times10^{-8}$), innate immunity (n=30; $P=2.5\times10^{-5}$) and type I IFN regulation (n=8; $P=3.4\times10^{-4}$). Of these, a total of 41 relevant downregulated genes were found to be associated with specific biological processes (*e.g.* ribosome biogenesis).
Analyzing sub-clusters, JAK-STAT (n=8; $P=5.7\times10^{-5}$) and ERK1/ERK2/MAPK (n=15; $P=9.3\times10^{-5}$) pathways were specifically up-regulated in sub-cluster 4a and 4b, respectively. Co-infected cells also showed higher expression of at least 16 lncRNAs. lncRNAs NEAT1 and MALAT1 were downregulated in 4a compared to 4b ($P=1.1x10^{-9}$ and $P=2.3 \times 10^{-16}$, respectively).
Conclusions: Sc-RNAseq analysis revealed that co-infection drives the formation of a transcriptionally singular subpopulation of A549- hACE2 cells. The different expression of functionally related cell genes is presumably associated to a hRSV and SARS-CoV-2 interference within the same cell.
Further analyses will be mandatory to ascertain the functional role exerted by these factors that may have therapeutic relevance in the context of hRSV/SARS-CoV-2 coinfection.

EP0047

Two-step *in vitro* MEMORY TEST to assess SARS-CoV-2-specific immune response

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Background: A booster shot is an additional vaccine dose that prolongs immunity. To determine whether humoral/cellular immune responses against SARS-CoV-2 are sufficient to prevent re-infection and make a booster unnecessary, we developed a two-step in vitro "MEMORY TEST."
Methods:
Step1: Neutralizing activity (NA) to SARS-CoV-2 was assessed in plasma samples (n°=100) from SARS-CoV-2 infected/vaccinated (SI) or uninfected/unvaccinated (SU)

subjects. PBMCs of 37 SI and 10 SU subjects were *in vitro* stimulated with inactivated SARS-CoV-2 for 5 days to assess B and T cell memory induction.

Step2: A549-ACE2 cells were SARS-CoV-2 infected (MOI:0.01). After 1-hour supernatants or PBMCs derived from step1 were added to A549-ACE2 infected cells to test if induced SARS-CoV-2 specific humoral/cellular immunity are sufficiently protective to control viral replication over time (48, 72h).

Results: According to their NA, SI subjects were divided in high responders (SIH; NA≥320) or low responders (SIL; NA≤80). After step1, CD4+, CD8+ T cells and B cells from SU did not significantly change their phenotypic or functional profile. Conversely, in SI re-exposure to SARS-CoV-2 stimulated both T and B cell maturation.

Specifically, in SI compared to SU we observed:

1. A significant reduction in naïve B cells ($p=8.8^{-10}$),
2. An increase in the percentage of plasmablast CD20+/CD27+/CD38+($p<0.001$), and;
3. An augmented percentage of polyfunctional CD4+IFNg+TNFa+IL2+ cells ($p<0.004$) and central memory CD8+ T cells ($p=8.3^{-5}$) .

Notably, viral replication in A549-ACE2 cells was not affected in the presence of either supernatants or PBMCs from SU derived from step1.

Contrarywise, viral infection/replication was significantly reduced in the presence of both PBMCs (48h: $p<2.2^{-5}$; 72h: $p<3.7^{-9}$) and supernatants (48h: $p<2.7^{-9}$; 72h: $p<2.7^{-9}$) from SI. Such protective immunity was independent from initial NA as SIH and SIL displayed the same trend in both step 1 and 2.

Conclusions: These findings suggest that humoral and cellular memory triggered by SARS-CoV-2 re-exposure can control viral replication, regardless of NA. Our two-step in vitro MEMORY TEST reliably predicts immune responses to re-exposure, offering a valuable tool to assess the need for booster doses, particularly in immunocompromised individuals, such as PLWH.

EP0048

Epigenetic regulation of RSV replication during co-infection with SARS-CoV-2: the role of microRNAs

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Background: Co-infections of respiratory viruses with similar tropism, such as RSV and SARS-CoV-2, can significantly impact clinical outcomes by either antagonizing or enhancing each other's pathogenicity. Using A549-hACE2 cells infected individually or concurrently with these viruses, we previously demonstrated enhanced replication of RSV during co-infection.

The present work aims to investigate the molecular and epigenetic mechanisms underlying RSV's replicative advantage in this context, with a specific focus on cellular microRNAs.

Methods: We selected eight microRNAs (let-7a-5p, let-7c-5p, miR-16-5p, miR-24-3p, miR-29c-3p, miR-30a-3p, miR-34a-5p and miR-93-5p) known to regulate antiviral responses, inflammation, and ribosomal biogenesis. Total microRNAs were extracted at 24 and 72 hours post-infection (hpi) from uninfected, single infected (RSV or SARS-CoV-2), and co-infected cells.

Reverse transcription followed by ddPCR was performed to assess expression patterns. In parallel, a transcriptome analysis was conducted on mRNAs to obtain an accurate molecular profile of the infected cells.

Results: Among the analyzed microRNAs, three exhibited significantly altered expression across conditions. Specifically: let-7a-5p was highly expressed at 24 hpi in co-infection ($p < 0.05$), but its expression was significantly downregulated at 72 hpi in the presence of both viruses; at 72 hpi, miR-34a-5p and miR-93-5p were upregulated and downregulated by single RSV and SARS-CoV-2 infection, respectively.

However, both miRNAs showed a marked reduced expression in the co-infection compared to RSV single infection ($p < 0.05$), suggesting their potential involvement in the regulation of the RSV replication cycle.

Moreover, we observed an inverse correlation between the expression of these miRNAs and mRNAs of several targets partaking in ribosomal biogenesis (C1QBP, EIF1AX, FBL, NHP2, NOP10, NPM1, PA2G4, PRKDC, RAN and several RPL/RPS), antiviral (DDX60, HERC5, IFIH1, IFIT1/2/3, IRF1, LYST, OASL, PMAIP1, RIGI, RSAD2, TANK, TRAF3, ZC3HAV1 and ZNFX1) and inflammatory (ACE2, ASH1L, CCL5, CYLD, FOXP1, IL15, IL1R1, KLF4, NFKB1, NFKBIA, NFKBIZ, PLCG2 and TNFAIP3) response.

Conclusions: These preliminary findings suggest that microRNAs may contribute to RSV's replicative advantage during co-infection with SARS-CoV-2 through the modulation of specific cellular processes. Further studies are warranted to elucidate the epigenetic mechanisms driving this interaction.

EP0049

Elevated MIF plasma levels in people with HTLV-1: exploring a putative role in viral pathogenesis

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Background: Human T lymphotropic virus type-1 (HTLV-1) is a globally spread retrovirus that, although mostly asymptomatic, may result in the development of adult T-cell leukaemia/lymphoma (ATLL) or HTLV-1 associated myelopathy (HAM). In Argentina, it is endemic to the Northwestern region. MIF is a proinflammatory cytokine associated with Th17 cell imbalance in pathologic conditions. Previous work from our group demostrated that, in HIV infection, MIF may contribute to viral pathogenesis by generating a microenvironment enriched in activating mediators and Th17-like CD4+ T cells (CD4TC).
Here, we explore the role of MIF in the context of HTLV-1 infection; particularly, its association with phenotype and function of CD4TC subsets among people living with HTLV-1 (PLWHTLV).
Methods: Blood samples were obtained from 12 healthy donors (HD), 10 asymptomatic, 7 ATLL and 9 HAM PLWHTLV. MIF, IL-6, IL-8, IL-10, IL-17A and IFNγ in plasma were evaluated by ELISA. Expression of CD4, CD25, CCR4, IL17A, IFNγ, FoxP3 and CD74 (MIF receptor) was evaluated in lymphocytes by flow cytometry and FlowJo (10.10.0). Statistical analysis was performed using GraphPad Prism (8.4.3).
Results: Plasma MIF was found to be significantly elevated ($p<0.0001$) in asymptomatics (median= 85.8 ng/ml) and ATLL (median=75.2 ng/ml), when compared to HD (median=2.028 ng/ml) and HAM (median=4.7 ng/ml). Percentages of IFNγ-expressing cells were significantly lower in bulk CD4+ ($p=0.0031$), CD4+ CD25+ ($p=0.01$) and CD4+ CD25+ CCR4+ ($p=0.0232$) T cell subsets in ATLL compared to asymptomatics.
No significant differences were found in the percentages of IL17A-expressing cells among CD4TC subsets or study groups. Expression of IL-17A and CD74 were correlated within the CD4+ CD25+ subset in ATLL individuals ($p=0.0002$, $r=0.9531$). No correlation was found between plasma MIF levels and CD4TC subsets.
Conclusions: As in HIV infection, our findings suggest that MIF may play a substantial role in the pathogenesis of HTLV-1, since it was elevated in PLWHTLV plasma. However, no association was found between MIF and CD4TC subsets in this exploratory analysis. Further investigations would be required to establish whether other mechanisms might be involved.

EP0050

Higher T cell activation, exhaustion, and senescence in HIV Controllers compared to ART-treated people living with HIV in Rio de Janeiro, Brazil

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Background: HIV controllers (HICs) naturally suppress viral replication but are a heterogeneous group. Some experience disease progression after long-term control linked to immune activation and exhaustion, while others maintain stable CD4 counts without progression.
This study compared immune activation, exhaustion, and senescence between HIC and ART-treated PLWH.
Methods: PBMCs were collected from 19 HICs, including 11 elite controllers (ECs) and 8 viremic controllers (VCs). The ART-treated group (ART) included 8 PLWH with suppressed viral load. All participants were followed at the Instituto Nacional de Infectologia Evandro Chagas, Brazil. PBMCs were stained with FVS450, anti-CD3, CD4, CD8, CD45RA, and CCR7. Activation markers (CD38, HLA-DR), exhaustion markers (PD-1, TIM-3, TIGIT, LAG-3), and senescence markers (CD57, CD28) were analyzed. Samples were acquired using a FACSAria and analyzed in FlowJo. Clinical and sociodemographic characteristics were compared using the Kruskal-Wallis/Dunn's test, and flow cytometry data with Mann-Whitney test.
Results: The frequency of activated CD4+ T cells was higher in VC ($p=0.0205$) and EC ($P=0.0266$) compared to ART-treated PLWH. Similarly, activated CD8+ T cells were more frequent in HIC (EC-$p=0.0041$; VC-$p=0.0006$) than in ART-group.
The frequency of senescent CD8+ T cells was higher in VC ($p=0.0028$) and EC ($p=0.006$) compared to the ART-group, with no difference in CD4+ T cells. CD4+ T cells showed higher frequencies of LAG-3+ cells in total ($p=0.085$) and in TEM cells ($p=0.0134$) compared to the ART-group. VC had higher frequencies of TIGIT+ in TN cells ($p=0.02$) and TIM-3+ in TEM ($p=0.0289$) and TEF ($p=0.0121$) cells compared to the ART-group.
The frequency of PD-1+ cells was higher in EC ($p=0.0018$) and VC ($p=0.0003$) in TEF cells compared to ART-group. In CD8+ cells, VC and EC presented higher frequencies of Lag+(EC-$p=0.04$, VC-$p=0.02$) and TIM-3+ (EC-$p=0.01$, VC-$p=0.0039$) in TEF cells compared to ART-group. EC also showed a higher frequency of PD-1+ TEF cells compared to ART group ($p=0.02$).
Conclusions: Our results suggest that VCs may benefit from ART to reduce immune activation and exhaustion. Additionally, we observed high heterogeneity within the HIC group, particularly ECs, some of whom exhibit very low immune activation and exhaustion.

EP0051

Efficacy of COVID-19 vaccines and immune responses in people living with HIV In Ghana

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Background: Immunocompromised persons, including people living with HIV (PLWH) face increased risk of severe outcomes from COVID-19, and therefore need strategies to manage SARS-CoV infection. The COVID-19 vaccines are known to curb the severity of disease in immunocompetent persons. However, the efficacy of COVID-19 vaccines in immunocompromised people in Ghana remains unknown. Scarcely evaluated and one wonders if HIV infection- induced immunodeficiency will influence the vaccine's efficacy. We evaluated levels of immune response to COVID-19 in both COVID-19 vaccinated versus and unvaccinated PLWH.

Methods: We conducted a cross-sectional study of 60 PLWH aged ≥18 years: 30 COVID-19-vaccinated and 30 unvaccinated. HIV seronegative samples were used as controls. Blood samples were collected and processed into plasma and peripheral blood mononuclear cells (PBMCs). Plasma samples of all 60 PLWH were subjected to ELISA to measure specific IgG response to SARS-CoV-2. The PBMCs of 24 samples (12 COVID-19-vaccinated and 12 unvaccinated) were stimulated with PHA, S, and N-Antigen. LUMINEX multiplex assay was employed to assess the levels of six cytokines (TNF-a, IL-1b, IFN-g, IL-4, IL-10, IL-6) in the stimulated cells.

Results: The PLWH vaccinated group had a 67% higher RBD-OD (OR: 1.67, 95% CI: 1.32–2.11, $p < 0.001$) and a 29% higher N-Ag-OD (OR: 1.29, 95% CI: 1.06–1.57, $p = 0.010$). Receiving booster doses further enhanced antibody levels, particularly against the N-antigen, suggesting a longer-lasting immune response. Cytokine levels were lower in the vaccinated compared to those who were not vaccinated. The differences were statistically significant with TNF-alpha responses approximately 91% lower (OR: 0.09, 95% CI: 0.02–0.49) among vaccinated individuals. Inter - person variability was observed (variance: 5.74, 95% CI: 3.31–9.95). Similarly, IFN-gamma T-cell responses were 85% lower in vaccinated individuals compared to their unvaccinated counterparts (OR: 0.15, 95% CI: 0.03–0.71), with notable variability between participants (variance: 4.02, 95% CI: 2.00–8.07).

Conclusions: These findings demonstrate significant differences in immune response markers between the groups, emphasizing the positive impact of vaccination on immunological outcomes in PLWH, like their HIV seronegative controls.

Course of HIV disease

EP0052

Retention of clients diagnosed through secondary HIV self-testing: a longitudinal analysis over 12 months in Johannesburg, South Africa

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Background: Evidence shows that early retention on HIV treatment is a challenge in South Africa. A systematic review estimated an average 6-month retention rate of 85%, and routinely collected data reported 74% of clients engaged 6 months after initiation. HIV self-testing (HIVST) is used to increase access to diagnosis, but linkage to treatment is a concern.

This study aimed to measure the retention rate of Healthcare Users (HCUs) diagnosed through secondary HIVST, as this testing may be reaching a population reluctant to seek healthcare services, and therefore at risk of poor retention.

Methods: This was a retrospective analysis of routine program data. A cohort of clients diagnosed through Secondary HIV-ST from January 2023 to October 2023 were followed for 12 months, and the retention rate was measured at 6 months and 12 months after initiation of treatment. Counselors kept records of every HIVST Kit distributed and followed up with primary clients after 72 hours, or through calling secondary clients directly. Clients with a positive test were recalled to confirm the HIV diagnoses and a retention counselor/case manager was allocated to accompany and link HCUs to services.

This group was identified as potentially high risk and enrolled into case management for enhanced adherence counseling and given appointment reminders 24 hours before each visit.

Results: 1514 test kits were distributed and 189 HCU had their diagnoses of HIV confirmed (12%). After six months 95% (180) of HCUs were still in care and 90% (162) were virally suppressed at less than 50 copies. At 12 months 90% (145) of the HCUs were still in care and 90% (131) were virally suppressed.

Conclusions: In this program setting, despite the population not having sought out HIV testing, we found very high retention and viral suppression rates compared with existing literature. Retention in care and suppression rates can be maintained at the highest level for high-risk populations if intensive psychosocial support is provided, and a conducive, effective, and efficient patient-centred environment is created.

EP0053

Mortality rates and individual characteristics among exposed infants and under-five Children living with HIV at Baylor Foundation Uganda Clinic

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Background: A 2021 report by the Centers for Disease Control and Prevention indicated Uganda's under-five mortality rate was 42.1 per 1,000 live births. However, mortality rates among infants exposed to HIV (HEI) or children under five living with HIV (CLHIV<5) years are not well-documented.

This study describes the mortality rate and individual characteristics of HEI and CLHIV<5, attending the Baylor Foundation Uganda (BFU) clinic from January 2022 to December 2023.

Methods: The Data team at Baylor Foundation Uganda conducted a retrospective electronic chart review of children under five who were exposed to HIV or CLHIV<5 and attended the Baylor Foundation Uganda clinic between January 2022 and December 2023. Descriptive statistics were used to analyse mortality rates and the characteristics of children recorded as deceased in the electronic medical records database.

Results: The under-five mortality rate was 5% (99/2118), with 46% (46/99) female and a median age of 12 months (IQR=12). Among the deceased, 32% (32/99) were exposed to HIV, and 58% (57/99) were Living with HIV. Of those LHIV, 66% (38/57) were diagnosed via DNA PCR, and 33% (19/57) via serology.

WHO stage 3 or 4 HIV was observed in 45% (26/57), with 15% (4/26) not receiving antiretroviral therapy at the time of death. HIV stage 3 or 4 was undocumented for 28% (16/57). The BFU clinic received 67% (66/99) of referrals from Mulago wards, with 38% (38/99) from the malnutrition ward. Tuberculosis (TB) accounted for 19% (19/99) of deaths. Other causes included infections, heart disease, and pulmonary diseases, while 56% of deaths had unknown causes.

Conclusions: The under-five mortality rate for infants exposed to HIV and CLHIV<5 was relatively low over two years. Preventable deaths were linked to delayed diagnosis, treatment, and documentation gaps. Leading mortality causes included malnutrition complications and TB. Early diagnosis and treatment are critical for under-fives survival, while mentorship, continuous quality improvement, and better documentation could improve outcomes. Health literacy on malnutrition and TB prevention should be integrated into routine care.

EP0054

Mortality predictors in a brazilian cohort of people with advanced HIV disease

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Background: Despite advancements in antiretroviral therapy (ART), HIV-associated mortality remains a significant global public health concern. In 2023, over 630,000 HIV/AIDS-related deaths were reported worldwide. In Brazil, high mortality rates persist, with Porto Alegre leading among Brazilian capitals. Delays in HIV diagnosis, limited access to healthcare, and non-adherence to treatment, exacerbated by social disparities, contribute to these high mortality rates.

This study aimed to describe the clinical characteristics and risk factors associated with overall mortality and opportunistic infections (OIs)-related mortality, in advanced HIV people in Brazil.

Methods: This prospective cohort study included 419 adults with advanced HIV across five Brazilian hospitals, four located in Porto Alegre and one in Goiânia. Baseline demographic and clinical data were collected. All participants were screened for tuberculosis (TB), cryptococcosis, and histoplasmosis with antigen-based tests and followed for 90 days to assess mortality.

Statistical analysis was conducted to identify variables significantly associated with mortality. Causes of death were classified per the Coding of Death in HIV (CoDe) protocol.

Results: Of the participants, 230 (55%) were cisgender men, 264 (64%) identified as black-brown, and 190 (45%) had not completed elementary school. The cohort had a median CD4 count of 66 cells/mm³, with the majority and most participants (95.4%) having a CD4 count below 200 cells/mm³, and 58% had abandoned treatment.

Opportunistic infections were diagnosed in 46% of clients: TB (34%), cryptococcosis (12%), and histoplasmosis (10%). Among these, 81% were TB-LAM positive, 94% CrAg positive, and 98% Histoplasma antigen positive.

After 90 days follow-up, 76 clients (18%) had died, mostly from AIDS-related causes. Factors significantly associated with mortality included ART-naive status (aHR 1.91; p=0.010), low hemoglobin (aHR 3.89; p<0.001), elevated creatinine (>2x upper limit of normal, aHR 1.52; p<0.001),

and altered mental status (aHR 2.33; p=0.002). Cryptococcal meningitis (p=0.012) and severe histoplasmosis (p=0.013) were also strongly correlated with death.

Conclusions: The study underscores the urgent need for earlier HIV diagnosis and sustained ART to reduce mortality, highlighting clinical and laboratory markers linked to higher death risk. High late-diagnosis rates suggest delayed healthcare access, stressing the need to enhance HIV testing, treatment adherence, and address social disparities.

EP0055

Advanced HIV disease remains common among people with HIV newly enrolled to care in Central Ethiopia in the Test-and-Treat Era

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Background: Increased access to HIV testing services allows for early HIV diagnosis and initiation of antiretroviral therapy (ART), which is associated with reduced morbidity and mortality. Yet, identifying people with advanced HIV disease (AHD) at time of diagnosis is important, as they may require additional investigations and interventions. In the Test-and-Treat Era, the availability of CD4 counts has decreased, making identification of AHD difficult. We characterized features of AHD among people with HIV (PWH) aged >15 years newly enrolled in care at public health facilities in Central Ethiopia.

Methods: Participants were included 2022-2024 as part of a prospective cohort study. At inclusion, sociodemographic and clinical data (including routinely obtained CD4 counts) was collected. AHD was defined as WHO stage 3/4 or CD4 count <200 cells/mm^3. Determinants associated with AHD were studied with logistic regression analysis.

Results: Among 622 participants, the median age was 35 years and 364 (58.5%) were female. Based on WHO stage alone, 229 persons had AHD (36.8%). CD4 counts were available in 118 (30.0%) persons with WHO stage 1/2 and led to the identification of an additional 37 persons with AHD (31.4% of persons with WHO stage 1/2 with available CD4 data). Overall, CD4 count results were available for 222 persons, accounting for 35.7% of the overall study participants.

In total (using both CD4 counts and WHO staging), 266(42.8%) participants had AHD. AHD was more common among men (adjusted odds ratio [aOR], 1.47; 95% confidence interval [CI], 1.01-2.16), older people aged >50 years (aOR, 2.64; 95% CI, 1.18-5.90) and rural residents (aOR, 2.98; 95% CI,1.56-5.67). Tuberculosis was the most common opportunistic infection for clinically staging participants as AHD, with 59/186(31.7%) and 15/43(34.9%) of WHO stage III and IV cases, respectively.

Conclusions: A high proportion of PWH enrolling in care in Ethiopia present with AHD. Lack of routine CD4 testing at initiation of ART may have led to missed identification of AHD in nearly one-third of PWH staged as WHO ½ emphasizing the need to improve access to routine CD4 testing. Our findings highlight the need to adapt HIV testing services for men, people 50 years and older, and rural residents.

EP0056

Regional variations in causes of mortality among people living with HIV in Nigeria: insights from a north-south comparative analysis

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Background: Mortality among people living with HIV (PLHIV) in Nigeria varies significantly between northern and southern regions, reflecting differences in disease patterns, healthcare access, and comorbidities. This study investigates these regional variations to inform targeted interventions.

Methods: A retrospective cohort study analyzed data from 8,357 PLHIV (56% female, 44% male) who received care from 2017 to 2024. Mortality causes were classified as AIDS-related, infectious diseases, or non-communicable diseases (NCDs, e.g., diabetes, stroke). Kaplan-Meier survival analysis assessed mortality trends, while logistic regression identified predictors.

Advanced statistical techniques, including Blinder-Oaxaca decomposition, quantified contributions of health determinants to regional disparities.

Results: AIDS was the leading cause of death in the south (52%) and more prevalent than in the north (34%, p < 0.01). Infectious diseases were the primary cause in the north (58%), significantly higher than in the south (29%, p < 0.01). NCDs accounted for 31% of deaths in the south compared to 9% in the north. Logistic regression revealed that late HIV diagnosis (aOR: 4.1, 95% CI: 3.4–5.0), poor ART adher-

ence (aOR: 3.6, 95% CI: 3.0–4.5), and limited healthcare access (aOR: 4.5, 95% CI: 3.8–5.6) were significant predictors of mortality. Decomposition analysis indicated that 65% of regional mortality differences were attributable to variations in healthcare infrastructure and socioeconomic factors.

Conclusions: Mortality in the south is driven by AIDS and NCDs, while infectious diseases dominate in the north. Tailored interventions, including improved infectious disease management in the north and integrated NCD care in the south, are essential to addressing these disparities and improving health outcomes for PLHIV in Nigeria.

EP0057

Characterizing clients interrupting in treatment in the Manzini and Lubombo regions of Eswatini: a setting that has achieved 95-95-95

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Background: Eswatini achieved the second 95 in 2020. The 2021 Population-based HIV Impact Assessment showed that 97.3% of PLHIV in Eswatini are on antiretroviral (ART). This means only 2.7% of PLHIV are not on ART, among which are clients who interrupt treatment (IIT). While IIT predictors have been identified in many studies conducted in non-95-95-95 settings, different factors could be at play in the 95-95-95 setting. PLHIV not on ART threatens sustainment of gains in the 95-95-95 targets in Eswatini. The clients should be characterized and understood so targeted interventions can be designed to reach and keep them in care, hence this study aimed to measure the rate of IIT, characterize the IIT clients, and identify predictors of IIT in a 95-95-95 setting.

Methods: Using programmatic data, a cross-sectional study was conducted among ART clients between January and March 2023 from 84 facilities in Manzini and Lubombo. Descriptive data analysis was conducted to describe IIT rate and characteristics of IIT clients. Lasso regression analysis was conducted to explore client characteristics that predict IIT in a setting that has achieved the 95-95-95 targets.

Results: A total of 93398 clients were included in the analysis. The IIT rate was 1.7% (n=1400). Clients with the highest IIT rates were those aged 10-19 years (3.7%, n=169), WHO stage I&II at ART initiation (30%, n=749), or < 1 year on ART (2.6%, n=367). Manzini had a higher (2.1%, n=1206) IIT rate than Lubombo (0.6%, n=194); urban facilities had a higher IIT rate (2.6%, n=1109) than rural facilities (0.6%, n=291), and virally suppressed clients had higher IIT rates (2.0%) than unsuppressed clients (1.0%). IIT predictors were being from Manzini (AOR:4.5 [95%CI:1.8-11.8], p=0.002), WHO stage III&IV at ART initiation (AOR:2.7 [95%CI:1.2-5.8], p<0.001), and having a treatment supporter who is not a relative (AOR:2.7 [1.1-3.7], p=0.025).

Conclusions: To sustain the gains in the second 95, population segments with higher IIT rates should be targeted with innovative strategies by the HIV Program to retain them in care. The predictors can be used to identify clients most likely to interrupt treatment before they interrupt treatment and be provided innovative IIT preventive interventions.

EP0058

Observed Low PrEP Initiation Rates among HIV Negative Clients and Reasons for PrEP refusal in a Mature HIV Program in Manzini and Lubombo

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Background: Eswatini achieved the first 95 HIV target in 2020. The HIV incidence is at 0.62% among adults aged 15 years and older, with a disparity between males (0.17%) and females (1.11%). To sustain the gains in the first 95, Eswatini uses HIV prevention measures such as pre-exposure prophylaxis (PrEP).

The aim of this study was to describe the proportion of PrEP eligible clients who are initiated on PrEP initiation, and the reasons for refusing PrEP among HIV negative clients.

Methods: We conducted a cross-sectional study using HIV program data from 84 facilities in Manzini and Lubombo abstracted between January and December 2023 for program monitoring and reporting on clients who tested HIV negative. We used descriptive statistics to describe PrEP initiation and the reasons for refusing PrEP. We tracked if they were initiated on PrEP or had documented reasons for refusing PrEP.

Results: Out of 82,754 HIV-negative clients, 16% (n=13,537) were initiated on PrEP. PrEP initiation was slightly higher among males (18%, n=4323) compared to females (16%, n=9214). Only 8177 clients had documented reasons for refusing PrEP. Most of the clients were females (77.3%, n=6322), from clinics or public health units (67.9%, n=5549), and located in rural areas (76.3%, n=6157).

The top 10 reasons for refusing PrEP were being not ready (24.3%, n=1986), not interested (18.1%, n=1482), trusting their sexual partner- or having one faithful sexual partner (9.7%, n=792), cannot take the PrEP pill daily (7.4%, n=603), adding PrEP pills to other medication client is currently using (7.3%, n=600), fear of side effects (6.3%, n=513), need to get consent from sexual partner (5.9%, n=480), PrEP being packaged like ART (2.8%, n=231), fear that parent/guardian will know client is sexually active (2.7%, n=219), and fear of losing partner's trust (2.3%, n=190).

A higher proportion of females reported each of these reasons compared to males. Clients aged 20-29 had the highest proportion of clients in each reason category.
Conclusions: PrEP initiation is low among eligible HIV-negative clients. Reasons for refusing PrEP were PrEP were not being ready, not interested, trusting their sexual partner or having one faithful sexual partner.

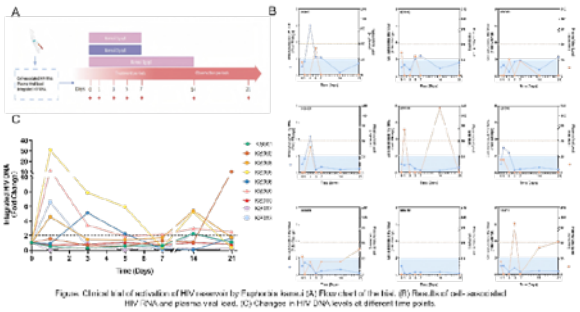
Cure interventions and other strategies and therapies

EP0059

Euphorbia kansui for latent virus reactivation in people living with HIV on suppressive antiretroviral therapy: a phase 2 clinical trial

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Background: The ‚Shock and Kill' strategy is pivotal in the quest for an HIV/AIDS cure. Our study explores Euphorbia kansui (Kansui), a traditional Chinese medicine, for its potential to reverse HIV-1 latency while rigorously assessing safety.
Methods: We conducted a phase 2 clinical trial at the Shanghai Public Health Clinical Center (NCT04503928). People living with HIV (PLWH) were randomized into three groups, initially receiving either 1 g qd or 2 g qd of Kansui pills for 7days or 14 days. PBMCs were collected on day 0, 1, 3, 5, 7, 14, and 21.
Primary endpoints included changes from baseline in cell-associated (CA) HIV RNA and plasma HIV viral load, while secondary endpoints involved integrated HIV DNA levels and safety assessments.



Results: Nine male PLWHs (mean age: 38.78±13.85 years old) with a median antiviral treatment duration of 49 months, were enrolled in the clinical study. During the intervention period, four participants experienced >2-fold CA HIV RNA induction, two had viral load reactivation >50 copies/ml during the intervention period. Integrated HIV DNA levels transiently increased during the intervention and then quickly returned to baseline levels without significant decline. Kansui demonstrated a favorable safety profile, with no serious adverse events reported and only mild adverse events observed.
Conclusions: Kansui can reactivate latent HIV viral reservoirs at a low-level in vivo and is well tolerated by PLWHs on antiretroviral therapy which warrant further investigation.

ART resistance

EP0060

Trends of HIV drug resistance and associated factors: an analysis of the Uganda national HIV drug resistance program data, 2021-2024

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Background: HIV drug resistance (HIVDR) to reverse transcriptase, protease, and integrase strand transfer inhibitors (INSTIs) is associated with increased mortality, program costs, and HIV incidence. We assessed trends of HIVDR during 2021-2024 in Uganda and associated factors.
Methods: We conducted a secondary analysis of program data on HIVDR among people living with HIV with repeat non-suppressed viral loads (≥1000 copies/ml).
All individuals in the national HIVDR database with complete data on the key variables were included in the analysis. Logistic regression was used to identify factors associated with HIVDR, and Mann-Kendall test was used to test significance in the HIVDR trends.
Results: Among 6,311 participants, 3,314 (53%) were female, with a median age of 22 years (IQR: 14-39). Most, 1,795 (43%) had spent 6-10 years on ART, and 3,313 (52%) were on first line ART. 351(5.6%) had HIVDR. HIVDR increased from 3% in July–September 2021 to 9% in July–September 2023, and this had declined to 7% by Jan-March 2024 (p=0.012). Resistance to INSTIs increased from 0% in April–June 2021 to 29% in April-June 2023. This had declined to 23% by Jan–March 2024 (p=0.013).
Participants aged 20-24 (OR=1.6; 95%CI: 1.2–2.2) and those aged ≥50 years (OR=1.9; 95%CI: 1.3–2.8) had higher odds of HIVDR compared to those aged 1–19 years. Males (OR=1.5;

95%CI: 1.2–2.0) and those on ART for ≥11 years compared to those on ART for ≤5 years (OR=1.8; 95%CI: 1.3–2.6) also had higher odds of HIVDR. Participants from HC IVs (OR=0.54; 95%CI: 0.36–0.81) and HIV specialized clinics (OR=0.47; 95%CI: 0.3–0.74) had lower odds of HIVDR compared to those from HC IIIs. Higher odds of HIVDR were observed in the northern (OR=2.5; 95%CI: 1.7–3.5), western (OR=1.8; 95%CI: 1.1–2.9), and eastern (OR=1.8; 95%CI: 1.2–2.5) regions compared to the central region.

Conclusions: HIVDR, particularly to INSTIs, is rising among individuals with repeat non-suppressed viral loads, with higher likelihood observed in males, individuals aged ≥20 years, and those from HC IIIs and non-central regions. There is need to investigate the underlying factors driving resistance and its variation across demographics and geographical locations.

EP0061

Emerging resistance to dolutegravir in Mozambique: patterns and implications from the DREAM Program

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Background: DTG is widely used in Mozambique as a first-line ART due to its high efficacy and favorable resistance profile. However, increasing reports of DTG resistance in resource-limited settings have raised concerns about its long-term sustainability.

Methods: We characterized resistance mutations in 13 Mozambican patients experiencing virological failure on DTG. Samples were collected from seven DREAM program centers and underwent genotypic resistance testing using Sanger sequencing. Mutations were classified based on their impact on drug susceptibility, and patient characteristics were compared.

Results: This study included 13 patients in virological failure on DTG; 9 (69.2%) exhibited resistance mutations to DTG. The number of resistance mutations per patient ranged from 1 to 5: 3 patients with one mutation, 4 patients with 4, and 1 patient with 5. The most frequent mutations were G118R and E138K, in 5 patients each, followed by R263K, in 3 patients.

Additional mutations included L74M (4 cases) and accessory mutations such as S230SR and E157Q, which were less common. Resistance to RTIs was prevalent among DTG-resistant patients, while no resistance to PIs was observed.

Patients with resistance mutations had a median ART duration of 14.6 years (interquartile range [IQR]: 8.3–17.0), compared to 8.0 years (IQR: 6.4–9.8) in those without resistance. Prior treatment failure was more common among DTG-resistant patients (66.7% vs. 12.5%), while a higher proportion of DTG-susceptible patients had transitioned to DTG during viral suppression (62.5% vs. 22.2%). Sex-stratified analysis showed no significant differences in resistance patterns between males and females, but females represented 60% of those with multiple resistance mutations (≥3 mutations).

Conclusions: This study highlights the emergence of DTG resistance mutations in Mozambique, emphasizing the need for routine resistance monitoring. Tailored strategies are crucial to preserving the efficacy of DTG and mitigating the public health impact of resistance in resource-limited settings.

EP0062

High level HIV drug resistance to second-generation non-nucleoside reverse transcriptase inhibitors: implications for long acting and third-line antiretroviral therapy in Tanzania

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Background: Nevirapine and Efavirenz, first-generation non-nucleoside reverse transcriptase inhibitors (NNRTIs served as the default first-line antiretroviral therapy (ART) for people living with HIV (PLHIV) in Tanzania between 2004 and 2018. Currently, second-generation NNRTIs are reserved for third-line regimens.

This study investigated the prevalence of drug resistance, resistance associated mutations (RAMs) patterns, and associated factors for second-generation NNRTIs within the national program.

Methods: We analyzed participant-level data from the National Central Third-Line Committee for 634 adolescents and adults aged 10 years and above with second-line ART virologic failure between March 2020 and December 2023. After confirmed virologic failure, HIV-1 genotyping of the *pol* region was performed using Sanger sequencing at the Temeke Specialized Laboratory (Dar es Salaam) and Mbeya Zonal Referral Hospital. RAMs were

interpreted using the Stanford HIV database (version 9.6). Multivariable logistic regression identified factors associated with NNRTI-RAMs.

Results: Overall NNRTI resistance occurred in 31.9% (432/634) of study participants, with 70.1% having at least one RAM conferring resistance to both etravirine (ETR) and rilpivirine (RPV). The most frequent RAMs included G190A, E138A/Q, Y188L, Y181C, and K101E. Less common mutations (<5% prevalence) were G190S/E, M230L, K101P and Y181I/V. RPV and ETR RAMs conferred high-level resistance in 42.9% and 13.5% of participants respectively and, intermediate-level resistance in 14.2% and 31.4%.

Baseline ART regimens with protease inhibitors (PIs) were significantly associated with a lower likelihood of NNRTI resistance (adjusted prevalence ratio (aPR 0.35, 95% CI: 0.15–0.83, p=0.017).

WHO clinical stage 2 was associated with increased resistance (aPR1.48, 95% CI: 1.04–2.12, p=0.031). Other variables, such as age, sex, and HIV subtype, were not significantly associated with NNRTI resistance.

Conclusions: High-level resistance to second-generation NNRTIs suggest a compromise of their effectiveness in third-line ART regimens. The presence of RPV RAMs highlights careful selection when considering long-acting cabotegravir-rilpivirine therapy for PLHIV particularly those with adherence challenges to daily oral regimens.

Notably, HIV disease stage II may be associated with an increased risk for developing RAMs, warranting further investigation.

On the other hand, PI-ART based regimens were associated with a significantly lower likelihood of RAMs, supporting their protective role in managing drug resistance.

EP0063

Transmitted and acquired integrase strand transfer inhibitor (INSTI) resistance mutation in a prospective cohort of Thai people living with acute HIV

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Background: Data on transmitted and acquired integrase strand transfer inhibitor (INSTI) drug resistance mutations (TDRM and ADRM) in Thailand are limited. This study assessed the prevalence of INSTI TDRM and ADRM in a longitudinal early-treated acute HIV (AHI) cohort in Thailand.

Methods: HIV genotyping was done in RV254/SEARCH010 AHI cohort to identify TDRM at enrolment (before ART initiation) and ADRM in participants experiencing virologic failure (VF). DTG-based regimens and integrase gene sequencing were introduced in SEARCH010/RV254 in 2017, with results analyzed using the Stanford University HIV Drug Resistance Database.

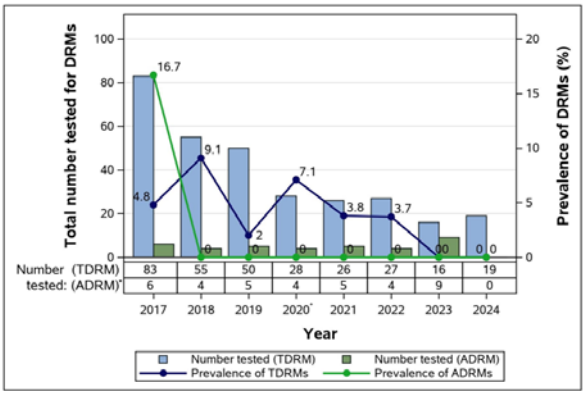
Results: INSTI TDRM data prior to ART initiation were available for 304 participants while sequencing was also available for 32 participants who experienced VF after earlier control on DTG-based ART. HIV-1 subtype AE was predominant (n=191, 62.8%). INSTI TDRM were detected in 15 (4.9%) participants during AHI. TDRM prevalence per year decreased over time, reaching 0% in 2023-2024. TDRM included 1 major mutation in 3 (1.0%) participants and 5 accessory mutations in 12 (4.0%) participants.

Most (96.4%) remained susceptible to all INSTIs; 2 (0.7%) had low level and 6 (2.0%) had potential low-level DTG resistance. Among 32 participants with VF while on DTG-based ART, only 1 had ADRM (1 major and 1 accessory mutation).

Demographic characteristics	Participants with AHI with TDR screening (N=304)	Participants with AHI with ADR testing after VF (N=32)
Age (years), median (IQR)	27.0 (23.0, 32.0)	24.5 (22.5, 28.0)
Male, n (%)	299 (98.4%)	31 (96.9%)
Duration since HIV exposure (days), median (IQR) (N=171)	20.0 (13.0, 27.0)	
Sexual partners in past 30 days, median (IQR) (N=303)	2 (1,3)	
Drug use in past 30 days	59 (19.4%)	
Fiebig staging, n (%)		
1	45 (14.8%)	
2	65 (21.4%)	
3	151 (49.7%)	
4	40 (13.2%)	
5	1 (0.3%)	
6	2 (0.7%)	
HIV RNA (log10 copies/ml), median (IQR)	6.1 (5.0, 6.8)	4.6 (4.0, 5.1)
CD4 cell count (cells/mm3), median (IQR)	342.5 (247.0, 456.0)	584.0 (462.0, 655.0)
HIV subtype, n (%)		
CRF01_AE	191 (62.8%)	25 (78.1%)
CRF01_AE/B	95 (31.3%)	5 (15.6%)
B	3 (1.0%)	1 (3.1%)
CRF01_AE/C		1 (3.1%)
Non-Typable	4 (1.3%)	
Missing	11 (3.6%)	
Exposure of HIV Post-exposure prophylaxis (PEP), n (%)	21 (6.9%)	
Exposure of HIV Pre-exposure prophylaxis (PrEP), n (%)	23 (7.6%)	
Duration between initiate ART until VF (years), median (IQR)		4.6 (2.1, 6.4)
Duration of DTG at genotypic testing (years), median (IQR)		2.8 (1.6, 4.6)

Abbreviations: INSTI, integrase strand transfer inhibitor; ART, antiretroviral therapy; AHI, acute HIV infection; TDR: transmitted drug resistance; ADR, acquired drug resistance; VF, virologic failure

Table 1. Participants with INSTI transmitted drug resistance screening before initiation of ART and participants who experienced virologic failure while on DTG-based regimen.



* Virologic failure occurred in 32 participants at 37 distinct instances
* National rolled out of DTG-based regimen

Abbreviations: INSTI, integrase strand transfer inhibitor; DRM, drug resistance mutation; VF, virologic failure; TDR, transmitted drug resistance;

Figure 1. Prevalence of INSTI DRMs by year.

Conclusions: INSTI TDRM decreased over time in this AHI cohort, reflecting low current community transmission of INSTI resistance. INSTI ADRM was rare after VF, reflecting

high barrier to resistance of DTG-based regimens, which may also be favorable for clinical trials incorporating analytic treatment interruptions and supporting ART switching without drug-resistance testing.

EP0064

Molecular sequence analysis reveals frequent A6 variant associated transmission of rilpivirine resistance and reflects cross-country transmission patterns

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Background: Transmitted drug resistance to all key drug classes remains critical from perspective of the clinical care, especially in migrant populations where there is often limited data on viral molecular variability. Since outbreak of full scale war in Ukraine, Poland has not only been involved in care on previously diagnosed PWH but also expanding efforts to diagnose the undiagnosed and investigate molecular epidemiology related to transmissions from Ukraine.
The aim of this study is to report on transmitted drug resistance, clustering and cross-country transmission patterns among Ukrainian migrants newly diagnosed since 2022 in Poland.
Methods: Partial *pol* sequences from 227 newly diagnosed Ukrainian migrant individuals (144 protease/reverse transcriptase (PR/RT) and 78 PR/RT and integrase (IN) and 5 only IN) were analysed for drug resistance mutations (DRMs) using Stanford HIV drug resistance algorithm version 9.8 and subtyping with COMET tool. For phylogenetic clustering analaysis A6 sequences were used and supplemented with 14562 sequences from public database to reconstruct time calibrated maximum likelihood tree reflecting cross-country transmission patters and investigate likely country of transmission event.
We defined a cluster using Shimodaira Hasegawa (SH) local support of at least 0.9 and consist at least for 80% of member taxa isolated in given country.
Results: Dataset included 102 (44.9%) females and 125 (55.1%) males, 71.4% diagnosed late (33.5% with AIDS defining condition); median baseline lymphocyte CD4 count was 192 [interquartile range (IQR):53-376] cells/ul and HIV-1 viral load 5.1 [IQR:4.3-5.7] copies/ml. Subtype A6 was the most common (88.5%) followed by subtype B (9.7%). Nucleoside DRMs were observed in 3.1%, non-nucleoside in 13.5% (of these E138A/K/G in 11.25% with one tranmssison pair), no protease DRMs while in 1.1% major integrase (K263K) mutation was found. 29.6% of sequences were forming transmission clusters repersenting new heterosexual imports of A6 to Poland from Ukraine but some possible within Poland transmissions, representing 5.8% of sequences were found among men who have sex with men.
Conclusions: In late diagnosed Ukrainian migrants the most commonly transmitted DRMs are ripivirine associated E138A/K/G substitutions. Phylogenetic tree analysis confirms the direction of majority of transmissions from Ukraine to Poland but after-migration within Poland transmissions were also revealed.

EP0065

Recent HIV-1 infection and pre-treatment HIV drug-resistance among adults initiating antiretroviral therapy in rural Tanzania

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Background: New HIV-1 infections remain an important threat to ending the HIV epidemic, possibly contributing to spread of viral resistance. We determined the proportion of recent HIV-1 infections (RHI) among newly diagnosed people living with HIV (PLHIV) in rural Tanzania and assessed the prevalence of pre-treatment HIV-1 drug resistance (PDR) in those with RHI.

Methods: Within a cross-sectional analysis we determined RHI using the Asanté™ HIV-1 Rapid Recency® Assay in bio-banked samples from newly diagnosed adult PLHIV enrolled in the Kilombero and Ulanga Antiretroviral cohort from March 2019 to March 2022. Risk factors for RHI were assessed using logistic regression analysis. Genotypic resistance testing (GRT) was conducted for PLHIV identified as having RHI.

Results: Among 599 PLHIV, median age was 39 years (interquartile range (IQR) 30-47), 391 (65%) were female, and 374 (62%) were married or cohabiting (Table). 24 participants (4%) had RHI. We found no factors associated with RHI. GRT was successful in 16/24 (67%) participants, and 5/16 (31%) had HIV-1 drug resistance mutations: 4/16 (25%) for non-nucleoside reverse transcriptase inhibitors, 2/16 (13%) for nucleoside reverse transcriptase inhibitors and 1/16 (6%) for protease inhibitors.

Conclusions: The low prevalence of RHI observed in this hospital-based study indicates a concerning trend of late diagnoses. This underscores the urgent need to strengthen HIV testing strategies to facilitate earlier detection and treatment.

Additionally, routine screening for PDR should be prioritized to enhance treatment outcomes and prevent further resistance development. Although the sample size was limited, the substantial proportion of recently HIV-infected patients with PDR represents a significant public health challenge that demands immediate attention and targeted interventions.

EP0066

Comparison between Sanger and Illumina amplicon-based sequencing to detect integrase strand-transfer inhibitor resistance in people receiving dolutegravir-based antiretroviral therapy

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Background: Next-generation sequencing (NGS) has replaced Sanger sequencing for many applications. In the context of the widescale global transition to integrase strand-transfer inhibitor (INSTI)-based ART, we need a better understanding of the frequency and clinical significance of low-frequency drug resistance mutations (lf-DRMs) to inform the potential transition to routine use of NGS for HIV drug resistance testing.

Methods: In DTG RESIST, clinical sites of the International epidemiology Databases to Evaluate AIDS (IeDEA) network enrol adults and adolescents ≥10 years old receiving any DTG-based regimen with at least one routine viral load (VL) ≥1000 copies/mL. In a central laboratory, we perform VL testing on plasma or dried blood spot (DBS) specimens, followed by Sanger sequencing and amplicon-based Illumina sequencing of HIV-1 *pol* for specimens with VL ≥1000 copies/mL. We defined low-frequency DRMs as those detected at 2-20% frequency by NGS. Using the Stanford HIVdb algorithm, we compared predicted DTG resistance based on DRMs detected by Sanger or by NGS at 2% threshold.

Results: We processed 198 specimens with a confirmed VL >1000 copies/mL on the enrolment specimen, and paired Sanger and Illumina integrase sequences were available from 187/198 (94%). The majority (124, 66%) had no major or accessory integrase DRMs detected by Sanger or NGS. Of the 44 with ≥1 major INSTI DRM detected by Sanger sequencing, additional low-frequency major and/or accessory INSTI DRMs were detected by NGS from 15 (34%).

Only one participant had DTG resistance detected by NGS that was not detected by Sanger sequencing: in that case, the major INSTI DRM N155H was detected at ~7% frequency in an individual with confirmed virological failure after 43 months of TLD.

This was the only case where predicted DTG resistance differed for Sanger (susceptible) and NGS (potential low-level resistance). In the 186 other cases, predicted DTG resistance was concordant (39 high-level resistance, 4 intermediate resistance, 1 potential low-level resistance, and 142 susceptible).

Conclusions: In this comparison of Sanger and NGS-based HIV drug resistance testing, low-frequency INSTI DRMs were rare in the absence of majority INSTI DRMs, and predicted DTG resistance was highly concordant.

EP0067

Nucleoside reverse-transcriptase inhibitor resistance patterns in adults and adolescents with virological failure on dolutegravir-based antiretroviral therapy: DTG RESIST study of IeDEA

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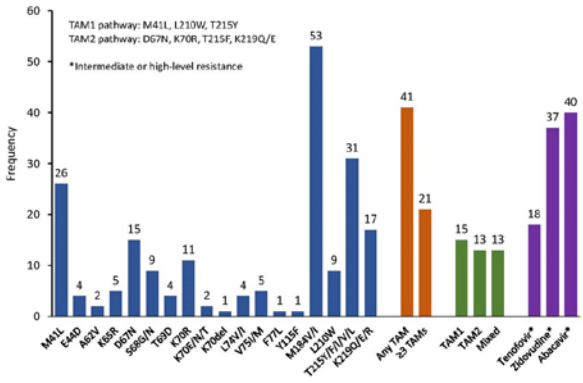
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Background: With reports of increasing dolutegravir (DTG) resistance in people receiving DTG-based ART, it is important to understand concomitant NRTI resistance patterns. This is not only to provide insight into risk factors for emergent DTG resistance but also to inform treatment guidelines following failure of DTG-based ART.

Methods: In DTG RESIST, clinical sites of the IeDEA network enrol adults and adolescents ≥10 years old receiving any DTG-based regimen with at least one routine viral load (VL) ≥1000 copies/mL, regardless of prior ART history. In a central laboratory, we perform VL testing on plasma or dried blood spot (DBS) specimens, followed by HIV-1 pol Sanger sequencing for specimens with VL ≥1000 copies/mL. We present data on NRTI resistance patterns in specimens processed up to December 2024 from the study sites in Africa.

Results: We processed specimens for 488 participants receiving DTG-based ART enrolled between June 2022 and December 2024 at 16 sites in seven African countries. Most participants (81%) were receiving tenofovir (TDF or TAF), with 12% zidovudine and 7% abacavir. 234/488 (48%) had a VL >1000 copies/mL, and we obtained a reverse tran-

scriptase sequence for 217 (93%); 209 also had an integrase sequence. Overall, 95 (44%) had at least one NRTI drug resistance mutation (DRM): 54/55 (98%) of those with ≥1 major integrase strand-transfer inhibitor (INSTI) DRM, and 37/154 (24%) of those with no major INSTI DRMs. In the subset of 55 participants with ≥1 major INSTI DRM, almost all had M184V/I (n=53, 96%), but K65R was infrequent (n=5, 9%). Thymidine analogue mutations (TAMs) were detected in 41/55 (75%) (Figure). The proportion with TAMs was similar regardless of NRTI backbone (24% tenofovir, 23% zidovudine, and 29% abacavir).



Conclusions: In people with emergent DTG resistance on ART, the predominant NRTI resistance pattern was M184V/I and TAMs, regardless of current NRTI backbone.

Pandemics, conflict and climate

EP0068

Epidemiology, clinical presentation and outcome of human mpox in Rivers State, Nigeria during the 2022-23 outbreak: an observational retrospective study

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Background: There is a paucity of studies describing the epidemiology, clinical manifestation, and outcome of human mpox in Rivers State, Nigeria.
Methods: An observational retrospective study of suspected mpox cases was conducted between October 21, 2021, and April 30, 2023, at the mpox treatment center and outpatient clinic at the University of Port Harcourt Teaching Hospital, Rivers State, Nigeria. Laboratory confirmation of mpox and varicella-zoster virus infection with real-time polymerase chain reaction assay of swabs from the exudate of vesicular or pustular lesions and/or crust skin specimen was done at the National Reference Laboratory of the Nigerian Center for Disease Control and Prevention, Gaduwa-Abuja, Nigeria. A data extraction form was used to obtain sociodemographic information (such as age, gender, occupation, and sexual orientation), potential MPXV transmission routes (such as animal contact, close contact, and sexual exposure), clinical manifestations, presence of comorbidities (e.g., concomitant chickenpox coinfection), HIV status, vital signs, laboratory information, and treatment received.
The primary outcome was the rate of hospitalization and death. Associations between categorical variables were done using Fisher's exact test. We considered a p-value of < 0.05 (two-sided) as statistically significant.
Results: Of 35 participants, 24 (68.6%) were males with a mean age [± standard deviation] of 33.7 (± 9.9 years), and 5 (14.3%) were living with HIV. The majority (n=33, 94.3%) reported being in a heterosexual relationship with a household identified as the probable place of contact (n=13, 72.2%). None of the participants reported having contact with animals or a travel history. The most common symptoms were skin rash (35, 100%), followed by fever (26, 74.3%), and fatigue (26, 74.3%). Concomitant varicella-zoster virus infection (n=6, 17.1%), hospital admission (n=28, 80%), and death (n=3, 8.6%) were also observed. There was a statistically significant association between mortality and people living with HIV (p = 0.002).
Conclusions: The 2022-23 mpox outbreak in Rivers State predominantly affected young adults characterized by human-to-human transmission and typical febrile rash syndrome with an association between mpox mortality and living with HIV. Targeted and strategic public health interventions are needed to control the spread of mpox in Nigeria.
Keywords: *Mpox, Epidemiology, Clinical presentation, Rivers State, Nigeria*

EP0069

Retention in HIV care at a health facility severely impacted by Cyclone Freddy in Phalombe District, Malawi: a look 18 months post-cyclone

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Background: On March 14, 2023, a devastating cyclone struck Southern Malawi, causing extensive flooding and destruction resulting in displacement of many communities and service disruptions at health facilities. Over 65,000 PLHIV receiving care in Phalombe district were at risk of treatment interruption due to inaccessible roads, population displacement, damaged infrastructure and lost commodities. Mudslides completely destroyed Nkhulambe Health Centre.
We describe the number of people receiving antiretroviral therapy (ART) at a severely affected facility prior to, immediately after and 18 months following the cyclone.
Description: In collaboration with Ministry of Health and other stakeholders, integrated emergency health services were provided in temporary structures and mobile clinics.

Community health workers (CHW), clinical staff, and psychosocial counselors conducted health talks and counseling sessions to facilitate emergency ART refill access.
Multi-month antiretroviral therapy (ART) prescribing was prioritized to minimize client visits, and clients were referred to nearby facilities or outreach clinics as needed.
Psychosocial counselors received capacity building on care of disaster survivors; they subsequently provided phone-based and in person psychosocial support to clients and health workers; clients without phones utilized CHW phones for virtual counseling. Health services continued to be provided in temporary structures.
We compared the number of people enrolled in HIV care at the end of the quarter preceding the cyclone (December 2022); following the cyclone (June 2023); and September 2024, 18 months post-cyclone.
Lessons learned: Following the cyclone, the cohort of PLHIV enrolled in care dropped to a low of 1,859 clients (55% of the pre-cyclone cohort). By end September 2024, the Nkhulambe cohort had returned to 3,059 clients (92% of the pre-cyclone cohort).
Conclusions/Next steps: Despite significant disruptions, a rapid, coordinated, multi-stakeholder response resulted in service continuation for the cohort of PLHIV at Nkhulambe HC following Cyclone Freddy. Client-centered approaches to ensure health services met clients' needs were critical to retention following natural disaster.

EP0071

HIV clients' retention in care before and during COVID-19 among clients on anti-retro viral therapy in Hawassa City, Ethiopia

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Background: Maintaining anti-retroviral therapy (ART) throughout any health-system disruptions caused by other outbreak and pandemics is of highest priority for HIV control programs in reducing morbidities and mortality. Clients who are retained in care are more likely to have better clinical results.
The objective of the study was to assess magnitude retention to care before and during the COVID-19 pandemic at Hawassa Comprehensive Specialized Hospital and Adare General Hospital in Hawassa Town.
Methods: A facility based cross-sectional study was conducted among ART clients, who are on follow up and treatment at Hawassa Comprehensive Specialized Hospital and Adare General Hospital from 1st March 2019 to 30th February 2021, the study included 368 clients data who were selected by a systematic simple random sampling.
The data was collected from the electronic medical record review of clients' data enrolled on ART, using checklist. Data were entered, coded and cleaned using Epi.info 7 and analysed using Statistical Package for the Social Sciences, SPSS version 25.
Results: Socio-demographic characteristics and the ART dispensing before and during COVID 19 of HIV Clients on treatment are as follows in tables below.

Variable	Category	Frequency	Percent (%)
	<= 24	37	10.1
Age	25-49	265	72.0
	>=50	66	17.9
Sex	Male	144	39.1
	Female	224	60.9
Address	Urban	323	87.8
	Rural	45	12.2

Variable	Category	Frequency	Percent (%)
ART Dispensing Before COVID 19	Monthly	219	59.5
	6 Monthly	149	40.5
ART Dispensing During COVID 19	Monthly	13	3.5
	3 Monthly	131	35.6
	6 Monthly	224	60.9

The proportion of clients retained on ART care was 302 (78.3%) before COVID 19 period and 305 (82.9 %) clients during COVID 19 period.
Conclusions: Increased retention 78% before COVID -19 to 83% during COVID 19 showed that maintaining essential services strategies devised (i.e., multi-month dispensing, virtual adherence counselling) were effective and critical to maintain the retention in care during COVID 19 period. In addition, service provision of enhanced adherence counselling (in-person or virtual using calls) given to high viral load clients should also be extended to rest of clients to increase magnitude of retention even more.

EP0072

Antiretroviral treatment retention and associated predictors among clients receiving care through mobile brigades in conflict-affected districts in Cabo Delgado, Mozambique, 2019–2024

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Background: HIV-integrated mobile brigades (MB) are client-centered service delivery models providing HIV care to people in remote or conflict areas with limited access to health facilities. We describe antiretroviral treatment (ART) retention and predictors among clients receiving MB services in seven conflict-affected districts in Cabo Delgado.
Methods: We extracted medical record data from clients receiving MB services January 2019–January 2024. A client had ART retention if they were on ART and did not trans-

fer out or discontinue ART during the follow up period. We used Kaplan-Meier to calculate probability of retention by months on ART (m), by age group (using age at the time of analysis), and by pregnancy status.

We used Cox regression to estimate adjusted hazard ratios (aHR) of retention with 95% confidence interval (CI).

Results: Among 6,111 clients, 5,323 (87%) were 25+ years-old, 276 (5%) <15-year-olds, and 4,086 (67%) were female, among whom 1,249 (31%) had ever been pregnant. The median time on ART was 45 months (interquartile range=28–71m).

Probability of retention was: 96.1% (CI=95.6–96.6%), 93.1% (CI=92.4–93.7%), 84.1% (CI=83.1–85.0%), 69.6% (CI=68.4–70.8%), 56.2% (CI: 54.8–57.5%) and 44.7% (CI=43.3–46.0%) at 6m, 12m, 24m, 36m, 48m, and 60m, respectively. Retention among pregnant women was 97.5% (CI=96.5–98.2%), 95.7% (CI=94.4–96.7%), 88.9% (CI=87.0–90.5%) at 6m, 12m, and 24m.

Among 15–19-year-olds, retention was 87.2% (CI=75.0–93.7%), 85.3% (CI=72.7–92.3%), 68.2% (CI=53.9–78.9%) at 6m, 12m, and 24m. Among 25+ year-olds, retention was 96.7% (CI=96.2–97.2%), 94.0% (CI: 93.3–94.7%), and 85.6% (CI=84.6–86.5) at 6m, 12m, and 24m.

Predictors of retention were: age 0–9 years (aHR 1.35=CI 1.13–1.63), 20–24 years (aHR=1.82, CI=1.63–2.03) vs 25+ years; Balama (aHR=1.60, CI=1.32–1.93); Montepuez (aHR=1.50, CI=1.36–1.65); Namuno (aHR=1.44, CI=1.26–1.65) vs Ancuabe district, and having TB vs not (aHR=0.71, CI=0.61–0.82).

Conclusions: Clients receiving services through MB, including pregnant women, had >90% retention up to 12 months on ART, but retention decreased over time.

Results suggest that MB can be effective in retaining clients on ART in conflict areas, but additional efforts may be needed for retention after 12 months.

EP0073

Mobile brigades and integration of elimination of vertical transmission services in Mozambique: challenges and solutions

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Background: Mozambique faces challenges in reaching the global goals for the HIV epidemic, with 80% of the estimated 2.46 million people living with HIV (PLHIV) on ART in june, 2024. In addition, there is a 10% vertical transmission rate among the 125,000 pregnant women Living with HIV (PWLHIV), contributing to an estimated 12,000 pediatric infections annually. Mobile Brigades (MB) were initially designed to improve immunization coverage but have evolved to provide integrated health services, including Elimination of Vertical Transmission (EVT) interventions, in remote and underserved communities. We aimed to report the integration of EVT into MBs from January- December 2023, identify barriers to implementation, and propose solutions to enhance their effectiveness in improving maternal and child health outcomes in Mozambique.

Description: Mobile Brigades deliver a wide range of health services, including immunization, antenatal and postnatal care, family planning, nutrition, TB services, and HIV care. For EVT, MBs provide HIV counseling and testing, antiretroviral (ART) enrolment and follow-up, tuberculosis (TB) screening and treatment, and sample collection for viral load (VL), CD4, and early infant diagnosis (EID).

Eligibility for MB integration as a Differentiated service delivery (DSD) includes remote communities with limited access to health facilities, high HIV positivity rates, and low retention rates, MB scale-up needs availability of funds for human resources and commodities.

Lessons learned: In 2023 MB provided services to 55,299 PLHIV, including 4,607 pregnant women, 862 lactating women, and 118 HIV exposed-infants under 2 months old. Key challenges included: poor road access, limited funding for human resources, Laboratory including EID point of care, and frequent stockouts of essential commodities. Lessons learned emphasize the need for increased financial support, a strengthened health system, and stronger stakeholder coordination, to overcome barriers and improve the reach and quality of EVT services.

Conclusions/Next steps: Integrating EVT services into MBs has proven effective in expanding access to HIV care for remote populations. However, overcoming logistical and financial challenges is essential to sustaining and scaling these efforts.

By implementing the proposed solutions, Mozambique can improve MB performance, improve retention in care, reduce vertical transmission rates, and advance progress toward EVT goals.

HIV and ageing

EP0074

Recurrent falls as a marker for frailty in virologically suppressed PLWH in Salvador, Brazil

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Background: With an increase in the life expectancy of PLWH, problems related to the earlier onset of comorbidities and geriatric syndromes as falls stand out in the care required for this population.

This study aimed to evaluate the prevalence of falls and recurrent falls among PLWH with undetectable viral load and their associated factors.

Methods: We conducted a cross-sectional study including 222 individuals with 18 years old or more, and undetectable HIV viral load. The possible associated factors

for any falls and recurrent falls were assess by an interview and evaluation of medical records. Bivariate analysis and a logistic regression by backward method were performed.

Results: The prevalence of falls in one year was 17.1%, while the prevalence of recurrent falls was 5.4%. Most participants were male (60.4%), with a mean age of 52,7 (±10,7) years, had more than 8 years of schooling (64.4%), and self-identified as Black or mixed race (89.0%). The median current CD4 T lymphocyte count was 672 cells/µL (IQR 473–831), while the median nadir CD4 count was 199 cells/µL (IQR 74–318), additionally, 57.6% of participants had a history of AIDS. In the logistic regression, any falls were associated with female sex (aOR 3.94, 95% CI 1.73 – 8.94), the use of central nervous system medications (aOR 3.90, 95% CI 1.05 – 14.42), and being single (aOR 0.33, 95% CI 0.13 – 0.81). For recurrent falls, female sex (aOR 4.23, 95% CI 1.10 – 16.20), the use of benzodiazepines (aOR 10.22, 95% CI 1.40 – 74.79), and frailty (aOR 6.53, 95% CI 1.28 – 33.36) were associated factors.

Conclusions: Our findings emphasizing recurrent falls as a more specific outcome in the evaluation of frailty in PLWH than any or simple falls. They also reinforce classic risk factors to any falls and recurrent falls, as female sex and central nervous system medications.

EP0075

Outcomes on antiretroviral therapy for adults 50 years and older: a retrospective cohort study from Newlands Clinic, Harare

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Background: HIV acquisition in older adults can be associated with increased mortality, often due to late diagnosis and presentation with advanced HIV disease (AHD). This single centre study compared treatment outcomes for clients initiated on antiretroviral therapy (ART) from 2014-2022 while aged ≥50-years with those of clients initiated at 30-49 years.

Methods: We performed a retrospective cohort analysis of clients initiated on ART at Newlands Clinic while aged 30-49 and ≥50-years between January 2014 and December 2022. We abstracted data from electronic medical records and analysed data using Stata BE17. We used descriptive statistics to summarize baseline demographic and clinical characteristics, and to describe outcomes up to two years post-ART initiation. We analysed differences in outcomes by age group using survival analysis methods with Kaplan Meier curves and Cox proportional hazards multivariable model.

Results: Data from 2420 clients was analysed of whom 1993 were aged 30-49 and 427 were aged ≥50 years. Majority of clients were female (59%). Median age was 38 (IQR 34-43) in the 30-49-year-olds and 55 (IQR 51-60) in the ≥50-year-olds. The proportion with AHD (CD4 ≤200cells/mm^3) at ART initiation was 47% in 30-49-year-olds and 48% in ≥50-year-olds. While 7% (146/1993) of the younger cohort experienced adverse drug reactions this was 16% (67/427) in the older cohort.

Mortality rate per 1000 person years was 23.6 in 30-49-year-olds and 47.13 in ≥50-year-olds. Over 70% of those who died in both groups had baseline AHD and >70% of deaths occurred within a year of initiating ART.

Strong associations were found between mortality and age ≥50 years with adjusted hazard ratio (HR) 2.01, 95%CI 1.37-2.96), baseline CD4 ≤200cells/mm^3 (HR 3.43, 95%CI 2.36-4.98) and presence of OIs (HR 2.28, 95%CI 1.57-3.31). Proportions with viral load <50copies/ml at 6-months were 78% in 30-49-year-olds and 84% in ≥50-year-olds.

Conclusions: Although the proportions of baseline AHD were similar in both cohorts, older people experienced more adverse drug reactions and had higher mortality post-ART initiation.

They however had better virological response to ART. There is need to target them for earlier testing and treatment to reduce mortality.

EP0076

Long-acting Cabotegravir/Rilpivirine (CAB/RPV LA) in older adults with HIV: high adherence and low complications in a real-world setting

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Background: Long Acting cabotegravir/rilpivirine (CAB/RPV LA) has demonstrated similar efficacy to oral antiretrovirals (ART), but the safety and effectiveness of CAB/RPV LA has been derived from studies overrepresented by young adults, with a median age of 30. There are concerns that this does not apply to older persons with HIV (PWH) due to unique challenges such as the presence of polypharmacy and age-related changes (sarcopenia).

Given the complexity of treating older PWH, we studied the use of CAB/RPV LA to address the lack of data available in the real-world setting.

Methods: We performed a retrospective review to describe adherence to on-time injections, viral suppression and reasons for discontinuation of CAB/RPV LA in PWH ages 50 and older at Midway Specialty Care Center in Florida. 181 PWH, ages 50 years and older, received their first CAB/RPV LA dose between January 2021 and January 2024. Population demographics are described in Table 1. We used descriptive statistics to describe study outcomes.

Results: 99% of 1,988 CAB/RPV LA injections were given on time. 97% were virally suppressed. The incidence of injection site reactions (ISR) leading to treatment discontinuation was low (4%). 3 PWH experienced virologic failure (2 with RPV resistance and 1 with CAB and RPV resistance). 45% discontinued CAB/RPV LA with a median time of 273 days on treatment before discontinuation. Almost 40% of those who discontinued CAB/RPV LA stopped due to mov-

ing to a new geographic area. Only 13% stopped due to injection specific reasons such as ISR, adverse events (AE) or virologic failure.

	N = 181
Age, **mean** (*range*)	**60**(50 – 91)
• Age 65 years and older, **n** (%)	**42** (23%)
Gender Identity, **n** (%)	
• Cisgender Female	**41** (23%)
• Cisgender Male	**139**(76%)
• Transgender Female	**1** (1%)
Baseline BMI, **mean** (range)	**28.7** (16.89 – 52.91)
• BMI > 30, **n** (%)	**44** (24%)
Baseline Absolute CD4, **mean** (range)	**788** (97 – 2435)
Baseline HIV-1 RNA level	
• ≤ 200 copies/ml, **n** (%)	**174** (96%)
Race, **n** (%)	
• American Indian	**1**(0.5%)
• Asian	**2**(0.5%)
• Black	**39**(22%)
• White	**114**(63%)
• Other/Unknown	**25**(14%)
Ethnicity, **n** (%)	
• Not Hispanic/Latinx	**148** (82%)
Years Since Diagnosis, **mean** (range)	**20** (2 - 39)
Presence of Polypharmacy, **n** (%)	
• Yes, 5 or more medications	**123**(68%)
• No	**58**(32%)
Presence of Multimorbidity, **n** (%)	
• Yes, 2 or more conditions	**123**(68%)
• No	**58**(32%)
CAB/RPV LA Discontinuations*	**81** (45%)

* Reasons for Discontinuation: Moved (35), Unknown (1), Death (Not HIV Related) (5), ISR (7), Scheule Change by Patient (2), No Longer Want Injection (4), AE (not ISR) 6, Viremia (No Genotype < 200 copies/mL) (7), Virologic Failure (RPV or CAB resistance confirmed on genotype) (3), Insurance no longer covered (3), Lost to Follow Up (8)

Table 1.

Conclusions: Adherence rates of on time injections were high in this older population with HIV. There were minimal complications as ISR, AE and virologic failure rates were low. CAB/RPV LA demonstrated comparable clinical outcomes to younger individuals and can be considered a viable ART option for aging populations with HIV.

EP0077

Survival outcomes of older people living with HIV from 2001 to 2021 in Hunan, China: a retrospective cohort study

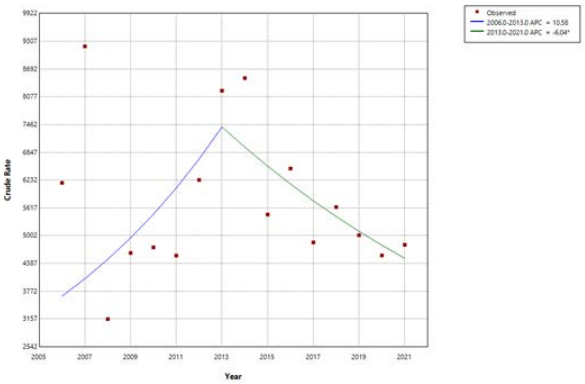
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Background: The prevalence of HIV is on the rise among older adults, necessitating insights into their distinct characteristics and survival outcomes. This study aims to investigate the survival status and relevant factors among older people living with HIV (OPLHIV).

Methods: This retrospective cohort study extracted data of OPLHIV aged 50 and older between 2001 and 2021 from the Hunan provincial HIV/AIDS Comprehensive Response Information Management System. Joinpoint regression, Kaplan-Meier, and multivariate Cox proportional hazards regression analytic methods were used for the analysis.

Results: All-cause mortality among 21,597 participants were 4,553. The median survival time was 172.60 months (95% confidence interval [CI]: 163.08-186.92). Survival rates at months 12, 36, 60, and 120 were 92%, 81%, 74%, and 59%, respectively. From 2001 to 2021, the crude mortality rate among OPLHIV showed an increasing and then decreasing trend, with a turnaround in 2013. Several demographic and clinical factors were associated with a higher risk of all-cause mortality. These include males (HR=1.640, 95% CI: 1.520-1.770), 70 years and older at the HIV diagnosis (HR=2.656, 95% CI: 2.449-2.880), farmers (HR=1.397, 95% CI: 1.233-1.582), unmarried (HR=1.226, 95% CI: 1.156-1.301), primary school or illiterate (HR=1.518, 95% CI: 1.345-1.712), heterosexual transmission (HR=2.129, 95% CI: 1.635-2.774). In addition, clinical characteristics such as baseline CD4 cell counts less than 200 cells/μL (HR=2.151, 95% CI: 1.907-2.427), not initiating antiretroviral therapy within 30 days of diagnosis (HR=2.151, 95% CI: 1.907-2.427) were also associated with a higher risk of all-cause mortality.



Conclusions: The overall survival rate of OPLHIV is concerning. Enhancing early HIV diagnosis and ensuring rapid initiation of antiretroviral therapy following diagnosis are crucial for improving survival outcomes.

Diagnostic and monitoring tools

EP0078

ART adherence; viral load and CD4 monitoring among transgender community in Nairobi, Kisumu and Mombasa cities

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Background: The transgender community in Kenya faces distinct challenges in HIV prevention, treatment, and care, often resulting in suboptimal ART adherence and viral load suppression. Understanding the unique barriers and facilitators to ART adherence, as well as the role of viral load and CD4 monitoring, is critical for improving health outcomes for transgender individuals living with HIV in Kenya.

This study examines ART adherence, viral load, and CD4 monitoring among transgender individuals in Nairobi, Kisumu, and Mombasa cities, with a focus on contextual factors affecting their engagement with HIV care.

Methods: A mixed-methods study was conducted between 2023 and 2024, involving 300 transgender individuals living with HIV who were accessing care at the Ishtar

MSM Health and Wellness Center in Nairobi, alongside health facilities in Kisumu and Mombasa. Quantitative data on ART adherence, viral load suppression, and CD4 count monitoring were collected through patient records and self-reported questionnaires.

Qualitative interviews were conducted with 30 transgender individuals, 15 healthcare providers, and 10 community stakeholders to explore experiences with HIV care, challenges in adherence, and perspectives on viral load and CD4 monitoring.

Results: Preliminary findings indicate that adherence to ART among transgender individuals is influenced by several factors, including social stigma, discrimination, and inadequate healthcare provider knowledge of transgender-specific health needs.

Of the participants, 60% demonstrated good ART adherence, but only 45% achieved consistent viral load suppression, and 50% had regular CD4 count monitoring. Barriers to adherence included the lack of transgender-friendly healthcare settings, economic constraints, and limited education on ART and HIV management.

However, supportive relationships with healthcare providers and peer networks were key facilitators to better adherence and retention in care.

Conclusions: This study highlights the critical need for targeted interventions to improve ART adherence, viral load suppression, and CD4 monitoring in the transgender community.

Enhancing the capacity of healthcare providers to offer transgender-inclusive services, addressing financial and social barriers, and fostering community-based support networks are essential to improving HIV outcomes.

These findings have implications for developing inclusive HIV care policies and interventions to meet the needs of the transgender population in Kenya and beyond.

EP0079

A randomized cross-over study comparing usability of two self-sampling blood devices for HIV viral load monitoring in resource-limited setting

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Background: HIV viral load (VL) monitoring is essential for evaluating antiretroviral treatment effectiveness. In high-burden settings, venepuncture at clinics delays timely VL results, often postponing awareness of treatment failure.

Previous studies demonstrated that 500 µL of blood suffices for VL and drug resistance testing using NGS methods. Self-sampling devices, offering minimally invasive alternatives, allow pre-appointment sample submission, reducing clinic visits and expediting results. Tasso+ is a microneedle device attaching to the upper arm, while Collect2Know V1.0 (C2K) attaches to the finger with a lancet and costs one-tenth as much. We evaluated the usability of these devices among PLHIV in Zambia.

Methods: An individually randomized crossover trial was conducted with 70 stable PLHIV attending routine ART visits (October–December 2024). Participants used each device in random order, with supervision for the first use and a second, unsupervised home sampling one week later. Success was defined as self-collection of ≥ 0.5 mL of blood during unsupervised use. A questionnaire captured perceptions of device usability, compared to standard venepuncture options.

Results: Of 62 participants completing the study (35.5% male, 64.5% female, aged 18–50+), 87.1% (54/62) successfully collected ≥ 0.5 mL with Tasso+, compared to 37.1% (23/62) with C2K (McNemar test, p <0.001; OR 11.45, 95% CI: 4.83–27.10). Among Tasso+ users, 61.1% (33/54) failed to achieve success with C2K (Table 1).

Healthcare workers highlighted reduced clinic congestion as a key benefit of self-sampling, while participants cited less pain, reduced fear, and improved privacy as significant advantages.

	Failure C2K (n, %)	Success C2K (n, %)	Total
Failure Tasso+	6 (9.7%)	2 (3.2%)	8 (12.9%)
Success Tasso+	33 (53.2%)	21 (33.9%)	54 (87.1%)
Total	39 (62.9%)	23 (37.1%)	62 (100%)

Table 1: Success and Failure to collect 5ml of blood by Device.

Conclusions: This crossover RCT demonstrated that device-assisted, minimally invasive sampling offers higher usability for self-collection among PLHIV compared to traditional methods. The adoption of such client-led technologies could streamline HIV monitoring, enhance client experience, and enable timely detection of treatment failure.

Further exploration of minimally invasive sampling devices, including advancements to improve existing methods, is warranted in broader, resource-limited contexts.

EP0080

Ensuring quality in early infant diagnosis of HIV through local proficiency testing panels production for GeneXpert point-of-care testing

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Background: Point-of-care testing(POCT) early infant diagnosis(EID) significantly reduces turnaround times from sample collection to caregiver result receipt and antiretroviral therapy initiation for HIV-exposed infants. To ensure accurate and reliable EID testing, sites are required by ISO15189 to participate in quality assurance. However, the high cost of procuring proficiency testing (PT) panels has been a barrier. To address this, USAID collaborated with FMOH to pilot local production and validation of GeneXpert EID PT panels(EPP).

This study reports on the performances of sites using the locally produced EPPs between 2023 and 2024.

Methods: The EPPs consists of 7-blinded DBS specimens: four HIV-negative and three HIV-positive. Positive EPPs were prepared by spiking HIV-negative EDTA-anticoagulated packed cells with pooled HIV-positive plasma containing HIV-1 RNA (11,000, 5,500, and 2,200) copies/ml to whole blood. EPPs were labeled with coded identifiers prior to spotting with 100ul of HIV-negative whole blood or HIV-spiked whole blood to DBS cards in separate processing rooms and dried overnight at room temperature in a biosafety cabinet.

Mini EPPs were prepared and tested on GeneXpert and Cobas 4800 platform to verify the characteristics of each. EPPs were packed in glassine paper, and stored in liquid-tight plastic sealable storage bags with desiccant sachets and humidity indicator card. Validation was carried out by testing 10 EPPs randomly selected from the beginning, middle and end of each batch produced prior to packaging and shipment

Results: Two cycles of EPPs were prepared and administered, Cycle0123/June2023 and Cycle0124/March2024. For Cycle 0123, 82 Laboratories were enrolled but 72 submitted results (87.8% participation), 34.7% (25/72) passed with a score of ≥90%. 65.3% (47/72) failed due to wrong identification/interpretation of panels (83.9%) and incomplete documentation(16.1%). Cycle0124 enrolled 98 laboratories with 94%(92/98) submitted results; 88% (81/92) passed. 12% (11/92) failed due to wrong identification/interpretation (80%), incomplete documentation(10%), and stockout of cartridges (10%).

A comparison of performance of both Cycles showed a significant improvement in complete documentation ($p<0.01$), correct interpretation/identification of panels ($p<0.01$), and performance score ($p<0.01$).

Conclusions: Our data showed an improvement in enrolment, participation and performance of the laboratories in the PT program.The PT program has contributed in improving the competence of the testing laboratories, documentation, and interpretation of EID test results at participating POCT laboratories in Nigeria.

EP0081

Biomarkers associated with risk of negative clinical outcomes in people living with HIV on opioid replacement therapy

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Background: Opioid use impairs immune response, but the mechanism of action remains unknown. In people with HIV (PWH), opioid use may exacerbate chronic inflammation and possibly limit antiretroviral therapy (ART)-mediated immune reconstitution.

To address the knowledge gap, we sought to identify inflammatory and immune biomarkers in PWH on opioid replacement therapy, including full (methadone, MET) or partial agonists (suboxone, SUB) of the μ-opioid receptor (MOR), and to assess a possible association with clinical outcomes.

Methods: The study enrolled 3 virally suppressed PWH groups that included control (ART alone, n=14), SUB (ART+-SUB, n=15), and MET (ART+MET, n=14) groups. Circulating proteome was analyzed with the SomaScan platform using anticoagulated citrate dextrose plasma specimens. Analyte selection and SomaSignal signature determinations were gated with a signal-to-noise ratio of >3. Statistical methods included Wilcoxon rank-sum test and beta regression; *P* values were adjusted for false discovery rate.

Results: The mean age of participants (48.6 years) and mean length of ART (10.4 years) were similar across all cohorts, but the percent of female participants was lower in the control group (14.3%) compared with the SUB (40.0%) and MET groups (42.9%).

SomaSignal analysis indicated that PWH receiving MET had a higher risk for kidney disease, heart failure, and dementia, and a trend for lower visceral fat and alcohol impact, compared with other groups.

The increased risks for kidney disease and dementia were confirmed using beta regression analysis. The levels of 12 unique proteins identified by 13 SOMAmers were differentially expressed between the control and MOR agonist groups. HSP70, KERA, NTRI, FLRT2, sCD14, SDF-1, IGLL1, AT1B2, and ROR1 levels were higher in PWH exposed to MOR agonists, but MMAC, IGFALS, and ELA2A were higher in the control group (*P*<.001). Standard ELISA analysis confirmed that readouts of HSP70, IGLL1, and sCD14 were concordant

with the SomaScan results. The levels of HSP70, IGLL1, and sCD14 measured by ELISA were significantly different between PWH exposed to MOR agonists and controls.
Conclusions: These data suggest that PWH chronically exposed to MOR agonists have higher levels of specific circulating protein biomarkers that may be linked to increased risk of negative clinical outcomes.

EP0082

Comparative analysis of viral load testing trends in a molecular laboratory in Akwa Ibom State, Southern Nigeria

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Background: Access to HIV viral load (VL) testing is affected by long turnaround times (TATs) and laboratory throughput. To optimize VL testing, PEPFAR, through the USAID-funded Accelerating Control of HIV Epidemic projects, supported the University of Uyo Teaching Hospital (UUTH) in Akwa Ibom State to upgrade its laboratory equipment. Three Abbott Alinity M instruments replaced the Abbott m2000, along with the installation of a solar backup power supply and timely commodity deliveries. The Abbott Alinity (tests 960 samples in 24 hours) has a testing capacity approximately twice that of the Abbott m2000 (465 samples/24 hours). This study assessed the TAT pre- and post-intervention and the error rate pre-and post-intervention.
Methods: Using routinely collected data on the number of samples received and tested and results dispatched from the National Laboratory Information System, we compared the testing output rates and TATs in the year prior to the intervention (October 2022–September 2023) with those in the post-intervention period (October 2023–September 2024). An unpaired t-test was used to compare the average monthly TATs; p-values <0.05 were considered significant.
Results: A total of 525,517 samples were received over the 24 months, with 57% (299,818/525,517) in the pre-intervention period (Table 1).
Average number of tests per month decreased from 23,905 pre-intervention to 18,804 post-intervention. The average monthly VL TAT for sample processing decreased significantly from 8.4±5.9 to 2.3±0.6 days (p=0.002). There was a reduction in the mean error rate from 23.11% pre-intervention to 5.62% post-intervention.

Indicator	Fiscal year 2023	Fiscal year 2024	Difference
Total number of VL samples received	299,818	225,699	-74,119
Total number of patients tested	286,860	225,644	-61,216
Total number of VL results dispatched	286,860	225,644	-61,216
Samples tested	95.70%	99.98%	
Results dispatched	100%	99.98%	
Mean error rate	23.11%	5.62%	17.49
Standard deviation of the error rate	25.16%	3.32%	
Standard error of the mean	7.26%	0.96%	

Table 1. Number of samples received, tested, and dispatched

Conclusions: The expansion of molecular platforms to improve VL diagnostic service coverage in the UUTH PCR laboratory demonstrated an increased capacity to handle a similar workload, with sustained sample quality, shorter TATs, and a reduced error rate.

EP0083

An assessment of advanced HIV disease: clinical and epidemiological insights from Burundi

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Background: Burundi has made significant progress towards HIV epidemic control, with 91% of people living with HIV (PLHIV) on treatment. However, 1,200 deaths occur annually due to AIDS.
We aimed to quantify and describe advanced HIV disease (AHD) among PLHIV using point-of-care VISITECT CD4 to inform AHD management in Burundi.
Methods: We conducted a cross-sectional analysis among PLHIV at 22 health facilities supported by the Reaching Impact Saturation and Epidemic Control and USAID Baho Mbeho projects, in 8 provinces from June–September 2024. Eligible PLHIV ≥15 years new on ART, returning to treatment (RTT) after >6-month interruption, or with detectable viral load (dVL) underwent CD4 testing. Individuals with AHD received GeneXpert testing, and clin-

ical information was abstracted from client records. AHD was defined as a CD4 count <200 cells/μL. Descriptive and comparative statistics were used to estimate and characterize those with AHD.

Results: During this period, we enrolled 492 PLHIV: 238 (48%) PLHIV new on ART, 67 (14%) PLHIV RTT, and 187 (38%) PLHIV with dVL. Of these, 49% (243/492) had AHD (52%, 123/238 among new on ART; 64%, 43/67 among those RTT; and 41%, 77/187 among dVL). Among PLHIV new on ART, 85% (62/73) in WHO stage 3 or 4 compared to, 37% (61/165) in WHO stage I or 2 had AHD. The median age of PLHIV with AHD was 36 years, 38% (92/243) male and 15% (37/243) part of a key population group.

Of those with AHD with GeneXpert results, 9% (21/241) were diagnosed with TB. AHD was more common among PLHIV RTT vs PLHIV new on ART (64% vs 52%, p =0.07), aged ≥45 years vs 15-24 years (57% vs 41%, p =0.01); male vs female (60% vs 45%, p = 0.002), and body mass index <18.5 vs ≥18.5 (59% vs 46% p = 0.02).

Conclusions: Nearly half of participating PLHIV had AHD suggesting that burden is high in Burundi, and especially among those RTT. There is an urgent need to scale up services for PLHIV with AHD, increase access to HIV testing to improve early identification of PLHIV and minimize AIDS-related deaths due to interruption in treatment.

EP0084

Reliability of the AIDS clinical trials group ART adherence questionnaire across administration modes and languages among Ugandan women living with HIV

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Background: The AIDS Clinical Trials Group (ACTG) antiretroviral therapy (ART) adherence questionnaire is widely used although the psychometric properties across different administration modes and languages remain underexplored. This study investigates the reliability of the ACTG ART adherence questionnaire across four administration modes.

Methods: Women living with HIV (WHIV) on ART were enrolled in Kampala, Uganda (2020-2021). We administered the ACTG ART adherence questionnaire at baseline, 6- and 12-month visits, divided into four participant groups: Audio Computerized self-Assisted interviews in English (A+E), in Luganda (A+L), Interviewer guided in English (I+E), and in Luganda (I+L). Internal consistency of the ACTG questionnaire was assessed using Cronbach's alpha (≥0.7 = reliable).

Test-retest reliability was evaluated using intraclass correlation (ICC), with values >0.6 deemed good. A mixed effects model was used to examine whether internal consistency changes over time with visit month, group and their interaction as fixed effects, and participant ID and visit month as random effects. Statistical significance was set at p<0.05.

Results: We enrolled 276 WHIV, median age at study-entry was 34 years (inter-quartile range (IQR) 31–38), and ART duration 1.7 years (IQR: 1.2–4.1). Majority (75.4%) self-reported reading ability as "quite very well" in English or Luganda. Reliability was high overall (Cronbach's α = 0.878); as well as subgroups; A+E (α = 0.910), A+L (α =0.8699), I+E (α =0.752), and I+L (α = 0.881). Reliability across visits was consistently high, baseline (α=0.888), month 6 (α=0.868), and month 12 (α=0.880).

Among domains, depression exhibited the highest internal consistency (α = 0.884), followed by self-efficacy (α = 0.863), anxiety (α = 0.810), and social support (α = 0.801). Internal consistency remained stable over time for the tool and its domains. The ACASI administration modes exhibited superior test-retest reliability compared to interviewer-guided methods (ICC = 0.63 vs 0.22, p<0.001).

Conclusions: The ACTG adherence questionnaire demonstrates high reliability across different modes of administration and languages, with ACASI outperforming interviewer-guided methods in reliability.

These findings highlight the suitability of the ACTG questionnaire for assessing self-reported ART adherence in diverse contexts including African settings, and reassuringly, underscores the utility of ACASI in ensuring consistent, reliable data collection.

EP0085

Variability in HIV viral load quantification in real-world service delivery settings: Findings from a prospective cohort study in Rwanda

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Background: While developments in HIV viral load testing (VLT) technologies have improved detection of low-level viremia, there is substantial variation in the quantitative results of available polymerase chain reaction tests, particularly around assay lower limits of quantification.

We aimed to describe the VLT results reported by three labs in Rwanda, characterize discordancy in viral load (VL) detectability and identify factors associated with discordant VL detectability.

Methods: In prospective study of people living with HIV, aged ≥40 years conducted by the Rwanda cohort of the International epidemiology Databases to Evaluate AIDS (IeDEA), we used a private lab and public hospital lab to

process paired specimens, and compared results from each lab with VLT results within 12 months (+/-) from Rwanda's national reference lab recorded in medical records. We used Cohen's Kappa to assess agreement of results at assay detectability cut-offs (20-39.8 copies/mL) and at <200, and <1,000 copies/mL, and we examined patient characteristics (age, sex, CD4 count, treatment regimen, time on regimen and prior detectable VL reported by the reference lab) independently associated with discordant VL detectability reported by the private and public labs via multivariable logistic regression.

Results: For 504 sets of VLT results reported by the three labs, mean patient age was 54.4 years (standard deviation: 7.1), and over 55% were females. Participants' median time on ART was 16.4 years, 95.4% were on DTG-based regimens, and 96.6% had CD4 cell counts of >200 cells/mm^3. VL detectability rates were 28.8%, 5.4% and 10.1%, respectively, for the private, public, and reference labs, with low agreement in VL detectability for the paired private-public lab results (Kappa 0.21) and private-reference lab results (Kappa: 0.11). Between-lab agreement increased at higher cut-offs of <200 copies/mL (Kappa 0.48 and 0.15, respectively) and <1,000 copies/mL (0.63 and 0.37, respectively). No participant characteristics were associated with discordant VL detectability between the private and public labs.

Conclusions: While VL detectability differed substantially across the three labs, there was high agreement at higher cut-offs generally used in clinical decision-making.

Our findings underscore the need for caution in relying solely on VL detectability, as results may differ across labs, irrespective of participant characteristics.

EP0086

Updates on the clinical epidemiology of HIV-1 group O strains in Cameroon and potential implications on diagnosis and treatment strategies

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Background: Cameroon is an epicentre of diverse HIV-1 viral strains, posing diagnostic and therapeutic challenges in clinical management. Groups N, P and O have been reported, with a declining trend (1.1% to 0.6%) of group O

from 2006 to 2013. In the era of dolutegravir-based therapies and transition from a 2-test to 3-test diagnostic algorithm in Cameroon (2.7% HIV national prevalence), we sought to update the prevalence of HIV-1 non-M and compare the diagnostic-performance of the 2-test vs. 3-test algorithms.

Methods: A facility-based study was conducted in February 2024 on 2 207 HIV-1 clinical-samples of individuals from all 10 regions of the country, monitored for HIV drug resistance at the Chantal BIYA International Reference Centre, Yaoundé-Cameroon. Socio-demographics, duration since diagnosis and recent viral-load were collected. Molecular-phylogeny and rapid-subtyping were performed for identifying HIV-1 non-M; Inno-Lia was performed for characterising reactive biomarkers on any HIV-1 non-M.

Performances of rapid diagnostic tests (RDTs) used in the 2-test (determine and KHB) vs. 3-test (First Response, One Step and KHB) algorithm were evaluated on HIV-1 non-M, including ACRO Rapid Test (HIV1/2 &p24) as an independent RDT.

Results: Overall, no HIV-1 group N (0%) nor P (0%) were found while 09 HIV-1 group O strains were identified (0.4%; 95%CI: 0.2%-0.8%). Of the individuals harbouring HIV-1 group O, mean-age was 43±12 years, 50% female, median [IQR] duration since HIV-diagnosis, 627 [423-775] weeks, median [IQR] viremia, 12,385 [5,340-72,682] copies/ml and median [IQR] CD4 count, 52 [39-228] cells/mm^3.

Following RDT, One Step, KHB and ACRO Rapid Test (HIV1/2&p24) detected 8/8 HIV-1 group O (100%-performance), First Response HIV1-2.0 detected 7/8 (87.5%-performance) versus 6/8 (75%-performance) with Determine HIV1/2, p=1.000. The two non-reactive samples on Determine HIV1/2 had indeterminate results on Inno-Lia.

Conclusions: In this Cameroonian setting, HIV-1 group N and P are scarce while group O remains low (<1%), with a potential declining trend over the years.

On eight HIV-1 group O strains, the 2-tests algorithm detected 75% against 87.5% for the 3-tests algorithm. Thus, transitioning to the 3-tests algorithm could lead to improved diagnostic performance on currently circulating HIV-1 group O, calling for updates in RDTs to adapt to viral dynamics.

EP0087

Employing a team-based process flow chart to sustain high viral load monitoring rates among paediatric HIV clients at Rundu State Hospital, Namibia from 2020-2024

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Background: Timely viral load monitoring (VLM) has been recognized as crucial for managing people living with HIV (PLHIV) on antiretroviral therapy (ART). In Namibia, the proportion of paediatric HIV clients receiving timely VLM per national guidance (every 6-months for clients aged 19 years and below) remains below the national target of 95%.

We used a team-based quality improvement (QI) approach to develop a process flowchart to standardize and streamline paediatric VLM at Rundu Hospital, Namibia to improve and sustain VLM above 95%.

Methods: In November 2020, a QI team identified low VLM among paediatric clients. To address issues related to VLM processes and improve VLM to above 95%, the team brainstormed an improved VLM flowchart including:

1. Appointment reminders via phone/SMS a week before appointments;
2. VLM eligibility verification and recording upon arrival;
3. Blood samples drawn and barcodes affixed to client records;
4. Result tracking within 1–2 weeks;
5. Missed appointment follow-up calls/SMS;
6. Results entered into records and electronic systems before filing;
7. Bi-weekly data quality assessments (DQAs);
8. Enhanced care for high viral load (>40 copies/mL) clients, followed by repeat tests after three months of good adherence, and;
9. Monitoring suppressed viral load (<40 copies/mL) clients at six-months.

The number and proportion of paediatric HIV clients receiving VLM per national guidance were calculated monthly using routine programmatic data from the electronic client management system and analyzed descriptively from November 2020 through May 2024 to assess achievement and sustainment of the 95% target.

Results: Paediatric VLM at Rundu Hospital increased from 41% (180/440) in November 2020 to 99% (315/317) in May 2024. From January 2022 through May 2024, achievement above 95% was sustained with performance peaking at 100% (304/305) in September 2023.

Conclusions: The standardized and streamlined VLM process ensured that paediatric clients eligible for VLM were not overlooked, all VLM results were accurately documented, and missed opportunities for VLM were swiftly identified and addressed. Rundu Hospital's success

demonstrates how a QI-driven approach can achieve and sustain high VLM rates among paediatric clients, providing a replicable model for similar settings.

EP0088

Levels of red blood cell indices alter HbA1c diagnostic cut-off for diabetes mellitus among persons living with and without HIV in Nigeria

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Background: Glycosylated hemoglobin (HbA1c) test has been widely adopted for the diagnosis and monitoring of diabetes mellitus (DM). However, multiple factors related to biological variability in glycosylation are believed to affect HbA1c levels. We examined DM diagnostic cut-offs by HIV status and strata of red blood cell (RBC) indices.
Methods: Persons aged 35 years or older, living with and without HIV (PLHIV and PWoH), were recruited in a cross-sectional study underway at the University of Abuja Teaching Hospital, Nigeria.
Participants underwent standard 75g oral glucose tolerance test (OGTT). Complete blood count was performed using 'Sysmex KX21N' while glucose and HbA1c were measured with 'Selectra ProS'. Levels of hemoglobin [Hb] and RBC indices (mean corpuscular hemoglobin [MCH], mean corpuscular volume [MCV], RBC distribution width [[RDW]) were categorized into low, normal and high according to WHO criteria.
Two-hour glucose results from the OGTT, as gold standard, and HbA1c levels were used to generate receiver operating characteristic curves with cut-offs determined based on optimal estimates of Youden's index, Euclidean distance, sensitivity/specificity (Sen/Sp) and area under the curve (AUC).
Results: Of the 285 PLHIV and 288 PWoH, women constituted 49.8% and 50.2% respectively. The median age of the PLHIV was 49 years while that of the PWoH was 44 years. The prevalence of DM based on the two-hour glucose were 2.46% (95% CI:0.99, 4.99) and 2.43% (95% CI:0.98, 4.94) among the PLHIV and PWoH respectively. HbA1c diagnostic cut-off for DM was 7.19% (Sen:0.86; Sp:0.94; AUC:0.88) and 7.23% (Sen:0.71; Sp:0.96; AUC:0.87) among PLHIV and PWoH respectively.
The HbA1c cut-off was lower among those with low hemoglobin (7.19% [Sen:0.8; Sp:0.94; AUC:0.88]) compared to normal Hb (8.93% [Sen:0.78; Sp:0.99; AUC:0.86).
Similar cut-offs for low and normal levels (7.19% vs 8.93%) were found for MCH, MCHC, and MCV. Those with elevated as compared to normal RDW had 7.19% and 7.23% cut-offs respectively.
Conclusions: DM diagnostic cut-offs in this study were higher than the 6.5% adopted from high-income settings. Larger studies are required to determine appropriate cut-off for the Nigerian population. Meanwhile, clinicians should consider alternative tests to confirm abnormal HbA1c results especially among persons with hematological abnormalities.

EP0089

The performance of low HIV viral load values for the diagnosis of acute HIV infection in the Beijing PRIMO cohort

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Background: Early diagnosis is critical for rapid antiretroviral therapy (ART) initiation and the prevention of subsequent viral transmission. The proposed viral load threshold for diagnosing human immunodeficiency virus (HIV) infection has been updated from 5,000 copies/mL to 1,000 copies/mL in China, and the impact of low viral load values on the diagnosis of HIV needs to be investigated.
Methods: A prospective study cohort, the Beijing PRIMO cohort, was established from 2006 to 2013, the enrolled subjects were from HIV high-risk population, and their HIV RNA levels were tested every 2 months to detect acute HIV-1 infection.
The distributions of the confirmatory western blotting antibody results and viral load values in 347 individuals in the Beijing PRIMO cohort were analyzed to investigate the performance of low HIV viral load values for the diagnosis of acute HIV infection. In addition, the CD4/8 T-cell ratios were also characterized.
Results: Among the 347 individuals in the Beijing PRIMO cohort, the viral loads of 4 (1.15%) patients ranged from 20 copies/mL to 999 copies/mL before positive confirmatory antibody results were obtained, and in 3 of the above four patients, the western blot results transitioned from indeterminate to positive.
The longest time interval between the detection of a viral load of fewer than 1000 copies/mL and the positive western blot result was 42 days. Twelve participants had at least one viral load value ranging from 1000 copies/mL to 5000 copies/mL before the positive western blot results were obtained.
In addition, of the 112 participants who had CD4/8 T-cell ratio results available that were obtained no later than the positive western blot results, 109 participants (97.3%) had a CD4/8 T-cell ratio <1.0.
Conclusions: The threshold of 1000 copies/mL being used for the diagnosis of HIV-1 infection in China still carries a risk of a missed diagnosis.
Our findings provide valuable information for the diagnosis of acute HIV infection and the development of an HIV laboratory testing algorithm.

EP0090

Innovative strategies for combating advanced HIV disease and tuberculosis: lessons learned from a data-driven approach across healthcare facilities in Nigeria

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Background: In Nigeria, 32% of PLHIV who received CD4 tests in 2018 had AHD, this population had the highest morbidity & mortality rates. AHD-related comorbidities like TB, contribute to increased morbidity and mortality. This study evaluates the implementation of AHD screening, treatment, and TB/HIV collaborative interventions in primary and tertiary healthcare facilities.

Methods: Data was collected across Fiscal-Year (FY) 2024, focusing on clients newly initiated on antiretroviral therapy (ART) and returning-to-treatment (RTT). Screening for AHD utilized clinical assessments, CD4 testing, Lateral flow urine lipoarabinomannan-assay (LF-LAM), and Cryptococcal Antigen (CrAg). TB diagnosis was conducted using GeneXpert and chest X-rays (CXR).

Descriptive analyses of service coverage, testing yields, and treatment linkage rates were performed. Programmatic activities, including stakeholder collaboration, healthcare worker training, and service innovations, were reviewed.

Results: Out of 3794 newly diagnosed HIV cases, 96% underwent CD4 testing, with 32% presenting CD4 <200. Clinical stage 3 or 4 cases accounted for 8%, and 1.7% were children under five. Among AHD clients, 74% were evaluated with LF-LAM, yielding a 20% TB positivity rate, while CrAg testing reached 62%.

For returning clients, 91% received CD4 tests, with 9% showing CD4 <200, and 64% were screened using LF-LAM. GeneXpert testing identified 1 TB-positive case, with an overall positivity yield of 2.7%. TB/HIV integration achieved a 99.8% screening rate for new and existing ART clients.

Among new clients, 10% were presumptive for TB; GeneXpert and CXR confirmed 154 TB cases, and 220 clients were started on treatment. For clients already on ART, 2.3% were presumptive, with a positivity-yield of 8.4%. Free CXR services in Q4 enhanced pediatric TB detection, especially for sputum-negative children.

Conclusions: While screening rates for AHD and TB among PLHIV were high, significant gaps in testing and linkage persist, attributed to stockouts and infrastructure limitations. To optimize AHD and TB/HIV outcomes, there's a need to scale up point-of-care CD4 testing and LF-LAM availability through public-private partnerships.

Expanding free CXR services and enhancing pediatric TB case identification through community and facility-based interventions are critical.

Continuous training for healthcare workers and leveraging technology for real-time data tracking will strengthen program implementation and sustainability.

Co-infections (including opportunistic infections)

EP0091

Yield from integrated HIV & TB testing service sites in Ekiti State, Nigeria

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Background: Nigeria bears a three-way burden for TB, MDR-TB, and HIV. At a prevalence of 1.4% for HIV and incidence of 219 per 100,000 population for TB, the country bears a huge burden for both diseases in Africa. Key population (KP) are key driver of the HIV epidemic in Nigeria. Although KP account for 3.4% of the population, they account for 11% of new HIV infection. Ekiti state has an HIV prevalence of 0.6% and an annual TB case notification of 10/100,000. Finding HIV and TB in these subpopulations is key to ending the HIV & TB epidemic in the country.

This research is tailored therefore to measure the yield from an integrated HIV and TB service provision across Ekiti State, Nigeria.

Methods: All 414 HIV & TB services sites were identified and mapped, small-volume facilities (spokes) were group, to feed into closest high-volume facilities (hub) for viral load testing and Xpert MTB/RIF assay and LF LAM. Healthcare providers were identified and had their capacity built on provision of integrated HIV & TB services. HIV test kits were provided across all facilities by the HIV programme. Clients with a viral load of ≤200 copies/mL had LF LAM testing done.

Results: Between July and September 2024, total of 22,636 people was screened, out of which 3,640 (16%) Presumptives TB case persons were identified, 99.8% (3,632) of Presumptives TB case were offered HIV testing services, out of these, 147 persons had HIV (104 previously known status and 43 persons with newly acquired HIV), 205 (6%) confirmed TB cases were notified, 196 (96%) started on treatment. 49 (24%) clients were TB/HIV co-acquired, and all dually acquired clients are started on ART. Finding children with TB and/or HIV was a missed opportunity.

Conclusions: TB and HIV continue to plague the country. Intentional efforts to addressing both diseases should be integrated leveraging on existing systems and structure of both programmes for a more impactful result.

EP0092

AI-enabled mobile X-ray for integrated screening of tuberculosis, cardiovascular disease and chronic respiratory diseases in HIV clinics in Nigeria: a cross sectional Study

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Background: Studies have shown that PLHIVs are most at risk of developing Tuberculosis (TB) and other cardio pulmonary conditions, yet early detection is usually hampered due to atypical clinical presentation and lack of active screening at the HIV clinics. AI mobile X-ray technology have shown the potential of improving diagnostic access and early detection TB and other cardiopulmonary conditions. We conducted an integrated screening of TB, Cardiovascular disease (CVDs), and Chronic respiratory disease (CRDs) using AI-enabled X-ray for PLHIVs at HIV clinics.
Methods: A cross sectional study was done between January to December 2024 in 10 high burden PEPFAR supported HIV clinics in Enugu state Nigeria, PLHIVs aged 18 years and above currently on ART and who visited the clinic for their appointments were screened using the WHO parallel screening algorithm which offers both TB symptomatic screening and AI Enabled X-ray screening simultaneously. Samples were collected for Gene Xpert testing from presumptive TB cases identified from either the WHO symptomatic Screening or from the AI report (we used a cut off or AI 0.3 and Above). for those who had abnormal X-ray suggesting CVDs or CRDs they were referred to see a specialist. the client's demographics clinical histories, AI reports and diagnostics results were analyzed using excel.
Results: A total of 3,063 PLHIVs were screened using the AI-enabled X-ray machine, 922 (30%) had an abnormal chest X-rays report, of the abnormalities identified from the AI report 25% (229) were presumptive TB cases, 40% (371) were presumptive CVD cases, and 35% (325) were presumptive CRD cases. A total of 325 samples were collected for Gene Xpert testing (from both symptomatic individuals and those with an AI score above 0.30), resulting in the identification of 48 TB cases which were initiated on TB treatment. the CVDs and CRDs presumptive conditions were reviewed by the clinicians.
Conclusions: From the results this study highlights the urgent need to expand the focus on CRDs and CVDs for PLHIVs in care. the use of AI technology for routine screening at the HIV clinics is important to promote early detection and the provision of a comprehensive health care for PLHIVs

EP0093

High completion rate and low side effects of the National Short-Course Tuberculosis Preventive Treatment implementation among people living with HIV in Thailand, 2023-2024

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Background: Thailand faces a significant burden of tuberculosis (TB) and HIV, with <1% of newly diagnosed people living with HIV (PLHIV) receiving Tuberculosis Preventive Treatment (TPT). The 2023 national guidelines recommend short-course TPT (3HP (Isoniazid/rifapentine) or 1HP) for newly diagnosed PLHIV, those on antiretroviral therapy (ART) with a CD4 count <200 cells/mm³, patients lost to follow-up with a viral load >1,000 copies/mL, individuals with positive IGRA tests, and those recently exposed to pulmonary TB. In FY23, the Thai Ministry of Public Health distributed TPT job aids and trained healthcare providers to increase TPT uptake nationally.
Methods: We analyzed the national TPT uptake (number of PLHIV initiating TPT), completion rates (number of PLHIV completing TPT divided by number of PLHIV who initiated TPT in the same time period), and side effects (abdominal pain, nausea, vomiting, numbness, flu-like symptoms, fever >39°C, rash, other) using the national HIV/TPT dataset from October 2022 to September 2024. We used the annual average of 25,000 newly diagnosed PLHIV reported in the National AIDS Program as a denominator to calculate TPT coverage among newly diagnosed PLHIV.
Results: A total of 4,147 PLHIV received TPT (1,655 in FY23 and 2,492 in FY24) across 195 hospitals in 59 out of 77 provinces. Of these, 70% were male, 94% were Thai, and the median age was 39 (IQR 29–48) years. The most common TPT regimen was 3HP (77%). Overall, completion rate was 85% in FY23, with a higher completion rate reported for 1HP than 3HP (93% and 85%, respectively). TPT was initiated in 1,805 newly diagnosed PLHIV (682/25,000 [2.7% coverage] in FY23 and 1,123/25,000 [4.5% coverage] in FY24), 930 PLHIV interrupting treatment, 380 PLHIV with CD4 count <200 cells/mm³, and 343 PLHIV with positive IGRA or TST tests. Reported side effects were <1%, mainly flu-like symptoms and gastrointestinal issues.
Conclusions: Although our findings revealed few side effects and high completion rates for short-course TPT, coverage among newly diagnosed PLHIV remained low

against the global target of 90%. Additional efforts to communicate the benefits of short-course TPT, address gaps in initiation, and ensure adherence may increase uptake among PLHIV and reduce TB incidence.

EP0094

Implementation of cryptococcal infection screening and treatment for clients with advanced HIV disease using a hub-and-spoke model in Ethiopia, 2024

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Background: Despite improvements in access to antiretroviral therapy, there has been high burden of advanced HIV disease (AHD) in Ethiopia due to late presentation. Over 40% of newly diagnosed adult HIV clients presented with CD4 count <200 cells/mm^3.

Nevertheless, access to package of AHD management services, especially diagnostics and treatment of cryptococcal meningitis (CM), have been a challenge.

Description: As part of improving access to AHD management, we developed a hub-and-spoke model that linked hospitals (HPs) to health centers (HCs) to extend AHD management to lower-level health facilities. Spokes are HCs with a capacity to test for cryptococcal infection (CI) and refer clients with sign and symptoms (S&S) of CM to the hubs (HPs). CDC supported the development of AHD management guidelines, training manuals, revision of electronic medical record to integrate CM into the existing HIV service database, and provision of training and mentorship to healthcare workers (HCW).

The Ministry of Health secured necessary commodities including CD4 and cryptococcal antigen (CrAg) tests, amphotericin B, flucytosine, and fluconazole through Global Fund. The initiative was implemented in February 2024 at 209 sites. We analyzed reports from 163 sites from February-August 2024.

Lessons learned: AHD screening was done using CD4 testing prioritized for newly diagnosed with HIV, return to treatment after interruption, and those with treatment failure. Of 2,189 clients with CD4 count <100 cells/mm^3, 95% (2,090) had access to CrAg test, and CI was found in 177 (8%). Of these, 58% (102) clients had S&S of CM, but only 58% (59) had access to cerebrospinal fluid CrAg test, with 56% (33) positivity. Overall, of 177 serum CrAg positives, 95% (169) had received either treatment (52) or prophylaxis (117) for CM. Gaps in supplies for lumbar puncture, HCW's capacity to assess CM, documentation, and missed opportunities for CrAg test were some of the challenges observed during implementation.

Conclusions/Next steps: A hub-and-spoke model of care was a feasible approach to provide CM prevention and treatment services. Close monitoring, mentorship and uninterrupted supply of commodities are important for the success of the program. The findings were used to inform expansion of the service to 388 additional sites in the country.

EP0095

Serology change-based clinical interpretation of indeterminate serostatus post-hepatitis B virus infection in people living with HIV

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Background: After hepatitis B virus (HBV) infection in people living with HIV (PLWH), various forms of indeterminate serostatuses, including "isolated anti-HBc (IAHBc)", are observed, but their clinical interpretation remains controversial despite the recent trend of sparing anti-HBV agents from antiretroviral therapy.

Methods: We conducted a single-center and retrospective cohort study of PLWH with past HBV infection and no history of vaccination. For PLWH with indeterminate serostatus, defined as neither seroconversion [HBsAg(-)/anti-HBs(+)/anti-HBc(+)] nor chronic infection [HBsAg(+)/anti-HBs(-)/anti-HBc(+)], chronological sub-serostatus and clinical interpretations were determined based on long-term changes in serology.

Results: Of 878 PLWH with past-HBV infection and no vaccination, 640 (73%) showed seroconversion, 60 (7%) had chronic infection, and 178 (20%) were considered the indeterminate group. Based on analysis of repeated serologic tests over a median period of 12.2 years (12.4 repeats of tests), the indeterminate group was classified as IAHBc (n=118, 66%), "anti-HBs alone" (n=35, 20%), and "lost anti-HBs/anti-HBc" (n=25, 14.0%). Serostatus changed during the study in 132 (74%). In IAHBc and lost anti-HBs/anti-HBc, chronic infection, viral rebound and non/weak-seroconversion were observed in 2/143 (1%), 5 (4%) and 27 (19%), respectively, while none showed gradual decline/loss of anti-HBs after seroconversion (resolved infection pattern). In contrast, sustained seroconversion and post-exposure protection were found in 23 (66%) and 5 (14%) in anti-HBsAb alone.

Conclusions: In PLWH, indeterminate HBV serostatus is highly unstable and can change with time, raising risk of misdiagnosis. IAHBc and lost anti-HBs/anti-HBc in PLWH do not indicate resolved but weak/unstable immunity against HBV, whereas anti-HBsAb alone infers robust immunity.

EP0096

Prevalence and incidence of high-risk penile HPV genotypes in transgender women and men who have sex with men

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Background: Persistent anogenital high-risk human papillomavirus (hrHPV) infections can lead to malignant lesions. People with HIV (PWH) have an increased risk of persistent infections.
This study evaluated the prevalence and incidence of penile hrHPV infections in men who have sex with men (MSM) and transgender women (TGW), including people with and without HIV.
Methods: We collected demographic and clinical data. To study HPV infection, we obtained samples at baseline and follow-up visits (FUV) using a 600-grit emery paper and a Dacron swab. Fifteen hrHPV genotypes were analyzed with ATILA AmpFire HPV High-Risk Genotyping. Samples with amplification failure were excluded.
Logistic regression assessed the prevalence and incidence of any hrHPV, genotypes included in the nonavalent vaccine (n-hrHPV), and HPV-16, considering gender, HIV status, condom use, and lifetime sex work.
Results: From June-2022/February-2024, 201 participants performed both visits and had available results. At baseline, median age: 33 years (IQR 29–40), 99%(199) identified as Hispanic-Latino, 13.5%(27) were circumcised, and 27.9%(56) PWH (median CD4 count: 712 cells/mL, IQR 529–942); 41.3%(83) reported prior anogenital warts, 12.4%(25) had completed quadrivalent HPV vaccination (Table 1).
Median time between visits: 174 days [IQR:168–209].

	MSM	TGW	p	PWH	HIV negative	p
Tertiary education level	144/167 (86.2%)	10/34 (29.4%)	<0.001	30/56 (53.6%	124/145 (85.5%)	<0.001
STIs:						
-History of STIs (i.e, syphilis, gonorrhea, chlamydia, hepatitis B-C)	125/167 (74.9%)	30/34 (88.2%)	0.090	49/56 (87.5%)	106/145 (73.1%)	0.029
-HIV diagnosis	36/167 (21.6%)	20/34 (58.8%)	<0.001	-	-	-
Sexual variables:						
-Lifetime sexual work	32/167 (19.2%)	28/34 (82.4%)	<0.001	26/56 (46.4%)	34/145 (23.4%)	0.001
-Lifetime insertive vaginal sex	88/167 (52.7%)	13/34 (38.2%)	0.12	29/56 (51.8%)	72/145 (49.7%)	0.8
-Condom use in anal/ vaginal insertive sex (more than 50% of sexual encounters)	96/149 (64.4%)	26/29 (89.7%)	0.007	34/46 (73.9%)	88/132 (66.7%)	0.4

Table 1. Baseline characteristics stratified by gender and HIV status.

Prevalence of any hrHPV and n-hrHPV was higher in PWH and those reporting sexual work, with no differences regarding gender. HPV-16 prevalence was 4.5% with no associations found in the logistic regression model.
Condom use during at least half of insertive intercourses reduced the odds of hrHPV detection at FUV by 54%. Additionally, being a TGW was significantly associated with hrHPV incidence after adjustment (Table 2)

hrHPV HR 95% CI	Crude OR (95%CI)	p	Adjusted OR (95%CI)	p
Prevalence				
PWH vs HIV negative	2.62 (1.37, 5.03)	0.003	2.79 (1.25, 6.29)	0.012
TGW vs MSM	1.49 (0.68, 3.18)	0.308	NS	NS
Condom use	1.27 (0.67, 2.47)	0.469	NS	NS
Sexual work	3.41 (1.80, 6.52)	<0.001	5.02 (2.18, 12.1)	<0.001
Incidence				
PWH vs HIV negative	1.16 (0.44, 2.84)	0.751	NS	NS
TGW vs MSM	1.69 (0.59, 4.50)	0.308	NS	NS
Condom use	0.46 (0.20, 1.07)	0.073	0.33 (0.12, 0.84)	0.024
Sexual work	1.16 (0.44, 2.84)	0.751	NS	NS
n-hrHPV HR 95% CI	Crude OR (95%CI)	p	Adjusted OR (95%CI)	p
Prevalence				
PWH vs HIV negative	4.29 (2.09, 8.92)	<0.001	5.00 (2.15, 12.0)	<0.001
TGW vs MSM	1.52 (0.62, 3.48)	0.337	NS	NS
Condom use	2.03 (0.95, 4.57)	0.074	NS	NS
Sexual work	2.86 (1.40, 5.84)	0.004	2.78 (1.11, 6.96)	0.028
Incidence				
PWH vs HIV negative	1.73 (0.45, 5.73)	0.386	NS	NS
TGW vs MSM	2.67 (0.67, 9.03)	0.129	15.9 (2.03, 167)	0.011
Condom use	0.78 (0.23, 2.62)	0.681	NS	NS
Sexual work	0.52 (0.08, 2.06)	0.411	NS	NS

Table 2. Logistic regression model.

Conclusions: PWH had a higher n-hrHPV prevalence. Those using condoms showed a lower incidence of any hrHPV. Prevention strategies including condom use and gender-neutral vaccination with nonavalent HPV vaccine may benefit this population.

EP0097

Progress and challenges in achieving the WHO 90-70-90 target for cervical cancer prevention among women living with HIV in low-and middle-income countries: a systematic review

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Background: Cervical cancer ranks as the fourth cause of death in low- and middle-income countries (LMICs). Women Living with HIV (WLHIV) are six times more likely to develop cervical cancer. The WHO's 90-70-90 target aims to eliminate cervical cancer by 2030 through 90% HPV vaccination, 70% screening between ages 35 and 45, and 90% treatment coverage. This review evaluates progress and challenges achieving these goals in LMICs among WLHIV.

Methods: We searched PubMed, EMBASE, Scopus, and Google Scholar for primary studies published between 2010 and August 2024 from LMICs reporting on cervical cancer prevention and HIV care, focusing on vaccination, screening, treatment, and challenges.

We applied a stepwise title, abstract and full-text review process to select final articles. Included studies encompassed cohort studies, cross-sectional studies, and randomized controlled trials. PROSPERO (CRD42024525160).

Results: We identified 4,023 unique studies (n), of which 73 were included in the final synthesis from 19 LMICs with a total sample size of 553,441 WLHIV. The median age range was 35-45 years. Screening coverage for cervical cancer varied from 29.4% in Kenya to 85% in Zimbabwe. Screening methods included Visual inspection with acetic acid (n=53), Pap smears (n=31), and HPV-DNA testing (n=9). WLHIV on antiretroviral therapy demonstrated improved screening uptake (n=45), reduced prevalence of precancerous lesions (n=9), and lower HPV persistence decreasing the progression to CIN2+ lesions (n=17). Treatment outcomes include same-day treatment (n=23) ranging from 68% in Namibia to 93% in Malawi.

Screen-and-treat approaches were employed in Malawi, Uganda, and Kenya, including thermal ablation and cryotherapy (n=32). Limited advanced screening technologies (n=13), poor follow-up (n=45), and weak integration of cervical cancer screening into HIV-care (n=17) have hindered progress in LIMCs. HPV vaccination for WLHIV remained low in LMICs, with no major data reported in the included studies

Conclusions: Evidence-based progress has been made in LMICs, but substantial challenges remain in achieving the ambitious WHO 90-70-90 target. Expanding HPV vaccination coverage, integrating HIV care and cervical cancer services, and adopting cost-effective interventions like self-sampling and digital tools are essential to closing gaps. Strengthening health systems and ensuring sustainable funding are critical to mitigating the dual burden of HIV and cervical cancer.

EP0098

Performance of baseline hemoglobin in predicting incident tuberculosis among people with HIV: a longitudinal study

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Background: Anemia and low hemoglobin (Hb) are associated with the incidence and progression of tuberculosis (TB) in people with HIV (PWH). To what extent the utility and threshold of Hb in predicting incident TB among PWH during antiretroviral therapy (ART) remain insufficiently explored.

Methods: Baseline and time-updated data were analyzed from a large longitudinal cohort of PWH in China. All participants were tested for *Mycobacterium tuberculosis* infection, underwent chest radiography, had blood and serum results at baseline, and actively surveilled for incident TB over a three-year period.

The TB cases confirmed at baseline were excluded. Poisson analyses, Kaplan-Meier curves, receiver' s operation curve (ROC), and logistic regression were used to delineate the association and predictive accuracy of baseline Hb for incident TB.

Results: Between September 2005 and November 2021, 12474 PWH were included in the predictive accuracy analysis. During a follow-up of three years, 220 (1.76%) cases of incident TB occurred. Age (≥65 years), Hb, CD4 counts, CD8 counts and CD4/CD8 ratio were identified as independent predictors.

Incident TB occurrence increased according to the severity of anaemia. Time-dependent ROC analyses revealed that baseline Hb performed well in predicting incident TB over three years.

In the first year, when nearly 80% of incident TB cases occurred, Hb thresholds of 132.5 g/L for male and 105 g/L for females yielded strong predictive performance, with an AUC of 0.81 (95% CI 0.78-0.84) in males and 0.74 (95% CI 0.63-0.86) in females.

However, incorporating CD4 counts, CD8 counts, and CD4/CD8 ratio did not significantly improve the utility of baseline Hb. Interferon-γ released assay (IGRA)-positive PWH with moderate and severe anemia at baseline were four times more susceptible to TB progression compared to those without anemia.

Conclusions: Baseline Hb alone can effectively predict incident TB in PWH during long-term ART. Monitoring Hb may serve as a simple and feasible strategy to support TB case finding and preventive therapy among PWH.

EP0099

Causes of death in people diagnosed with HIV-associated cryptococcal meningitis: a sub-study of the AMBITION trial

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Background: Mortality from HIV-associated cryptococcal meningitis remains high despite available therapy. The AMBITION trial was conducted in Botswana, Malawi, South Africa, Uganda, and Zimbabwe comparing a single, high-dose liposomal amphotericin B based regimen with the previous WHO recommended regimen based on seven daily doses of amphotericin B deoxycholate. We analysed causes of death in AMBITION.

Methods: We analysed data from participants who died during ten-weeks of follow up. Study doctors documented case narratives and reported causes of death which were reviewed by a blinded clinician to agree a cause, consulting a third individual if necessary.

After the trial, each report was reviewed by two additional blinded clinicians, with a third consulted if necessary. Using case definitions, we allocated diagnoses reported at time of death, their certainty, and whether they were considered to contribute to death. We allocated primary and secondary (if applicable) causes and whether the death was cryptococcal-related. We described data and compared across treatment arms.

Results: There were 218/814 deaths: 89 (40.8%) females; median age 39 years (IQR 33-45); median time to death 17 days (IQR 4-33); 104 (47.7%) deaths in the first two-weeks. Incident cryptococcal meningitis was primary cause of death in 145 (66.5%), subsequent immune reconstitution inflammatory syndrome in 11 (5.1%) and relapse in 4 (1.8%) (Table 1).

Overall, including primary and secondary causes, 171(78.4%) deaths were cryptococcal-related, at a median 9 days (IQR 2-25) versus 35 (IQR 25-47) for non-cryptococcal-related (p<0.001).

A slightly lower proportion of deaths in the AMBITION arm were cryptococcal-related than in the control arm, although this was not statistically significant (81.2% vs 75.2%, p=0.3).

Primary cause of death (%)	Overall (n=218)	AMBITION (n=101)	Control (n=117)	
Cryptococcal meningitis	145 (66.5	64 (63.7	81 (69.2)	
Cryptococcal IRIS	11 (5.1)	4 (4.0)	7 (6.0	
Cryptococcal relapse	4 (1.8	2 (2.0	2 (1.7)	
Septicaemia	17 (7.8)	7 (6.9)	10 (8.5)	p=0.481
TB	14 (6.7	8 (7.9)	6 (5.1)	
Pneumonia	9 (4.1)	5 (5.0)	4 (3.4)	
Other	18 (8.3)	11 (10.9)	7 (6.0)	
Was the death cryptococcal-related?				
Yes (%)	171 (78.4)	76 (75.3)	95 (81.2)	p=0.287

Table 1: Causes of death overall and by trial arm.

Conclusions: Cryptococcal disease was the leading cause of death in both study arms. Most cryptococcal-related deaths occurred early during treatment, with non-cryptococcal related deaths occurring several weeks after meningitis treatment was initiated. New therapies are required to further reduce mortality from cryptococcal meningitis.

EP0100

Baseline CSF HIV viral escape is associated with improved neurocognitive outcomes at 3-months amongst Ugandan adults diagnosed with HIV-associated cryptococcal or tuberculous meningitis: a prospective cohort study

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Background: Cryptococcal (CM) and Tuberculous meningitis (TBM) are leading causes of neurocognitive impairment among people living with HIV. Cerebrospinal fluid (CSF) HIV viral escape is common in HIV-associated meningitis and is associated with improved survival. We investigated whether escape is associated with neurocognitive outcomes.

Methods: We recruited adults with HIV-associated CM or TBM from Uganda. We tested paired baseline plasma and CSF HIV viral load (Xpert; Cepheid). We defined escape as any quantifiable level of HIV in CSF above that in plasma. Participants underwent neurophysiological assessment evaluating eight cognitive domains at 3- months post-meningitis. The composite quantitative neurocognitive performance score was a mean of 8 independent z-scores (QNPZ-8). We classified the QNPZ-8 score as mild (0 to -1), moderate (-1 to -2), or severe (£ -2) impairment. We compared baseline characteristics and QNPZ-8 score by escape status.

Results: We recruited 93 participants; 54% were male, median age 35 (IQR 30-42) years, median CD4 count 42 (12-97) cells/mm^3, 35% were on ART. Majority (69%) of participants had CM, 31% had TBM. Overall, 70 (75%) had HIV viraemia, and 40 (43%) had escape. **E**scape was strongly associated with CSF pleocytosis (p<0.001), and being ART

naïve (p=0.002). Participants with escape had a higher median QNPZ-8 score at 3- months (-1.18 vs -2.05, p = 0.135), and a lower proportion of severe neurocognitive impairment (28% vs 51%, p = 0.057) vs. those without escape. After adjusting for ART status, meningitis diagnosis, and CSF pleocytosis, the mean QNPZ-8 score among participants with escape was 0.53 higher (95%CI 0.09- 0.97, p = 0.02) than those without escape.

	Total cohort (N=93 N(%) or median (IQR)	Viral Escape (N=40) N(%) or median (IQR)	No Viral Escape (N=53) N(%) or median (IQR)	p-value[1]
Diagnosis				
Cryptococcal meningitis	64 (69%)	27 (68%)	37 (70%)	0.812
Definite/Probable TBM	29 (31%)	13 (33%)	16 (30%)	
ART naïve	43 (47%)	26 (68%)	17 (32%)	0.002
Currently on ART	32 (35%)	9 (24%)	23 (43%)	
Not ART naïve, currently not on ART	16 (18%)	3 (7.9%)	13 (25%)	
CD4 cell count (cells/μL)	42 [12, 97]	38 [17, 83]	49 [10, 132]	0.773
CSF white cell count (cells/μL)	48 [<5, 169]	113 [43, 268]	<5 [<5, 76]	< 0.001
QNPZ-8 score at 3-months		-1.18 [-2.10, -0.83]	-2.05 [-2.71, 0.75]	0.135[2]
QNPZ-8 score group				0.057[2]
>-1	31(33%)	15(38%)	16(30%)	
(-2, -1)	24(26%)	14(35%)	10(19%)	
<-2	38(41%)	11(28%)	27(51%)	

[1]Pearson's Chi-squared test; Wilcoxon rank sum test; Fisher's exact test
[2] Wilcoxon rank sum test; Pearson's Chi-squared test

Table 1. Baseline characteristics and neuro-cognitive outcomes of 93 adults with HIV-associated cryptococcal or tuberculous meningitis, stratified by CSF HIV viral escape status.

Conclusions: Amongst adults diagnosed with HIV-associated CM or TBM, baseline escape was associated with better neurocognitive outcomes at 3-months, suggesting that baseline escape is indicative of an effective immune response with the trafficking of HIV-containing CD4 lymphocytes and macrophages into the CSF.

EP0101

Genomic insights and treatment outcomes of Rifampicin-Resistant Tuberculosis in People Living with HIV in Botswana

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Background: Rifampicin-resistant tuberculosis (RR-TB) and HIV acquisition pose a significant public health challenge, particularly in high-burden settings like Botswana. This study aimed to evaluate treatment outcomes, characterize drug resistance profiles and associated drug-resistance mutations (DRM) among people living with HIV (PLWH) clinically diagnosed with RR-TB in Botswana.

Methods: The retrospective study analyzed 103 *Mycobacterium tuberculosis* (*M.tb*) isolates from PLWH clinically diagnosed with RR-TB between 2017 and 2023. *M.tb* genomic DNA was extracted using the Hexadecyltrimethylammonium bromide method, followed by library preparation with the Illumina DNA Prep kit and sequenced on the Illumina NextSeq 2000. *M.tb* lineages and drug resistance profiles were determined using TB-profiler pipeline.
Treatment outcomes, lineage proportions, drug resistance profiles and DRMs were analyzed with 95% confidence intervals (CI). Logistic regression models were used to identify predictive factors associated with unfavourable treatment outcomes.
Results: Among 103, 62% were male, and the median age was 41years (Q1,Q3: 32, 48). Among them, 78.6% (95% CI: 69.5–86.1) were new TB cases. Treatment outcomes were available for 98 individuals: 71.8% (95% CI: 62.1–80.3) were cured, 10.7% (95% CI: 5.5–18.3) died, and 1.9% (95% CI: 0.2–6.8) defaulted.
Whole genome sequencing revealed the following drug resistance profiles: Multi-drug resistant-TB (50.5%, 95% CI: 40.4–60.5), Pre-extensively drug-resistant (22.3%, 95% CI: 14.7–31.6), and Rifampicin mono-resistant (26.2%, 95% CI: 18.0–35.8). The most prevalent *M.tb* lineages were Lineage 4 (49.5%, 95% CI: 39.5–59.5) and Lineage 1 (32%, 95% CI: 23.2–42). Predominant DRMs for rifampicin, isoniazid and fluoroquinolones were *rpoB* S450L (19.4%), *katG* S315T (49.5%), and *gyrA* A90V (19.4%), respectively.
No mutations associated with bedaquiline or delamanid resistance were detected. Being a male (odds ratio (OR): 1.05, 95% CI:1.01-1.09, *p*-value=0.03), older (OR: 0.8, 95% CI:0.34-1.96, *p*-values=0.65) and having had previous TB treatment (OR: 0.50, 95% CI: 0.15-1.62, *p*-value=0.25) were not significantly associated with unfavourable treatment outcomes.
Conclusions: Although the study revealed high treatment success outcomes among PLWH in Botswana, a significant number of new cases. These findings underscore the need for strategies targeting the interruption of TB transmission. Further research with larger sample sizes is warranted to evaluate treatment outcomes and associated factors among PLWH.

EP0102

Prevalence and determinants of post-acute sequelae of SARS-CoV-2 (PASC) among people living with HIV in Rwanda: a cross-sectional study

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Background: People living with HIV (PLHIV) may have an increased risk of Post-Acute Sequelae of SARS-CoV-2 (PASC) due to immune dysfunction and chronic inflammation. This study investigated the prevalence and risk factors for PASC among individuals who had COVID-19 in Rwanda, with a specific focus on PLHIV, highlighting the role of comorbidities.

Methods: A cross-sectional study was conducted from August to October 2024, sampling 3,143 individuals from national COVID-19 registries. Eligible participants included those with a confirmed COVID-19 diagnosis and care-seeking behavior for COVID-19-related symptoms. Randomly screened individuals, such as those tested during mass screening campaigns without symptoms, were excluded. Data analysis involved descriptive statistics and multivariable logistic regression, with covariates adjusted and statistical significance set at $p < 0.05$.

Results: The study included 3,143 participants, comprising 1,265 males (40.2%) and 1,878 females (59.8%). Age distribution revealed that 30.4% were aged 18–34 years, 41.8% were aged 35–49 years, and 27.8% were aged 50 years or older. The prevalence of post-acute sequelae of COVID-19 (PASC) was 34.2% (1,076 participants) overall, with a higher prevalence of 36.8% (343 participants) among HIV-positive individuals. Predictors of PASC among PLHIV included hospitalization during their COVID-19 episode (AOR: 2.8, 95% CI: 1.5–5.9) and older age, particularly 35–49 years (AOR: 2.131, 95% CI: 1.428–3.21) and 50+ years (AOR: 1.748, 95% CI: 1.114–2.762). Education level was inversely associated with PASC, with lower odds observed among those completing secondary school (AOR: 0.392, 95% CI: 0.213–0.714, p=0.002) and university (AOR: 0.288, 95% CI: 0.152–0.539). In addition, the presence of hypertension as a comorbidity significantly increased the risk of PASC.

Conclusions: This study highlights the substantial burden of PASC in Rwanda, particularly among PLHIV, who accounted for 29.6% of our sample—significantly higher than the 3% prevalence in the general population.

This overrepresentation underscores the disproportionate impact of COVID-19 on PLHIV and emphasizes the urgent need for targeted interventions to address PASC in this population.

EP0103

The Incidence of anal pre-cancerous lesions is high in attendees of an anal cancer screening clinic in Vancouver, Canada: 2003-2021

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Background: In 2024, the first anal cancer screening guidelines were published, recommending yearly, age-based screening in key populations using cytology, HPV testing and high-resolution anoscopy (HRA), heavily focused on men who have sex with men (MSM) living with HIV. Despite this, there are no organized, public anal cancer screening programs in existence. In this study, we describe findings from Canada's largest anal cancer screening clinic over its nearly two decades of operation.

Methods: This is a retrospective cohort study of all individuals attending one of Canada's anal cancer screening clinics in Vancouver, Canada. Demographic and clinical data was analyzed using descriptive statistics, and logistic regression was used to examine predictors of histologic high-grade squamous intraepithelial lesion (HSIL), the precursor lesion to cancer.

Results: There were 1752 individuals seen between 02/2003-06/2021 included in the analysis. Median age at first visit was 48 years, and 83.4% were male; 59.0% of participants were living with HIV. The period prevalence of HSIL was 38.6%, yielding an incidence rate of 15.6 per 100-person years.

Of the 656 individuals ever diagnosed with HSIL, 443 (67.5%) were living with HIV. Being a male living with HIV was significantly associated with HSIL (odds ratio [OR] 2.2; 95% confidence interval [CI] 1.7-2.8).

A history of warts was predictive of HSIL and carcinoma *in situ* development (OR 1.7; 95%CI 1.4-2.1). A prior history of anal malignancy was highly associated with the development of both carcinoma *in situ* (OR 16.5; 95%CI 6.8-40.2) and invasive carcinoma (OR 9.9; 95%CI 2.3-42.8).

Conclusions: In this large cohort of anal cancer screening clients, over one third developed incident anal HSIL, with male sex and living with HIV being major risk factors. This is consistent with recently-published screening guidelines highlighting MSM with HIV as the highest risk group for anal cancer.

This study emphasizes the need for targeted anal cancer screening, particularly for higher-risk key populations including MSM living with HIV. It also highlights the importance of addressing the lack of widespread screening programs for early detection and management of anal HSIL, and the importance of close monitoring with HRA in those with previous anal cancer.

EP0104

Understanding the influence of Pre-Exposure Prophylaxis (PrEP) on the behavior changes and the escalation of Sexually Transmitted Infections (STIs): a survey analysis

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Background: The introduction of pre-exposure prophylaxis (PrEP) in the Philippines has effectively reduced HIV transmission, but its behavioral effects remain unclear. Research indicates that PrEP use may lead to risk compensation behaviors, such as reduced condom use and more sexual partners, potentially increasing sexually transmitted infection (STI) rates (Marcus et al., 2020; Traeger et al., 2019). The Department of Health's Epidemiology Bureau reports a 34% rise in syphilis cases and a 47% increase in Neisseria gonorrhoeae infections from 2021 to 2022.

This study examines behavioral shifts among PrEP users in Metro Manila and their correlation with STI trends, hypothesizing that PrEP use may contribute to higher STI incidence due to altered risk perceptions, thus requiring informed public health strategies.

Methods: This three-month study in Metro Manila used a qualitative online survey to ensure anonymity and accessibility. The target population included males who have sex with males (MSM) and transgender women, at higher risk for HIV and STIs.

Stratified random sampling ensured diverse age and socioeconomic representation. Data collected focused on sexual behaviors, PrEP usage, and STI history. Power analysis determined the sample size for statistically significant results.

Results: Among 278 respondents, 67% (n=187) acquired syphilis, 23% (n=65) Neisseria gonorrhoeae, and 9% (n=25) herpes simplex virus (HSV). Syphilis was most prevalent in those aged 18–25 (40%, n=75), followed by 26–35 (27%, n=50), and 36+ (15%, n=28). HSV was highest in the 18–25 group (5%, n=14). Transgender women represented 34% (n=94) of STI cases.

Additionally, 66% of respondents reported a reduced HIV risk perception after PrEP enrollment, leading to more unprotected sex. 34% believed contracting other STIs was acceptable, as they are treatable.

Conclusions: This study highlights a significant association between PrEP use and increased STI diagnoses, potentially linked to the rising syphilis and gonorrhea cases reported by the Department of Health.

Incorporating Behavior Change Communication (BCC) into PrEP programs is essential to promote safer practices, alongside STI education and routine screening. Targeted interventions for younger individuals and transgender women are crucial to balancing HIV prevention with sexual health education, informing public health policy to reduce STI risks within these vulnerable groups.

EP0105

Cytomegalovirus viraemia is strongly associated with 6-month mortality amongst adults living with advanced HIV disease: a prospective cohort study in South Africa

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Background: Despite antiretroviral treatment (ART) adult outpatients living with advanced HIV disease have a high risk of death. We hypothesised that cytomegalovirus (CMV) viraemia may contribute to mortality.

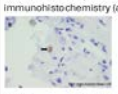
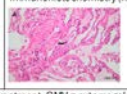
Methods: A cohort study of adults with CD4 count <100 cells/mm^3 to ascertain 6-month survival and cause of death (minimally invasive autopsies). We measured baseline plasma CMV viral load (qPCR). We report on the prevalence of CMV viraemia, associations between co-variates and CMV viraemia status, and the relationship with 6-month mortality.

Results: Amongst 146 participants, 50% were male, median age 39 (IQR 33-48) years, median baseline CD4 count 31 (IQR 10-60) cells/ mm^3. At baseline, 20% (29/146) were receiving ART, 33% (48/146) were CrAg positive in blood; and 40% (59/146) had a past/current history of TB. Baseline CMV viraemia was detected in 59% (86/146), with a median viral load of 366 (IQR 171-1,187) IU/mL.

Participants with CMV viraemia had lower CD4 counts vs. those without CMV viraemia (26 vs. 38 cells/μL, p=0.03). There was no evidence that CMV viraemia was associated with cryptococcal antigenemia, cryptococcal meningitis, or TB disease.

Overall, 6-month mortality was 18% (26/146); mortality was significantly higher in those with CMV viraemia (26%), compared to those without (7%), p=0.01. Participants with CMV viraemia had greater than 4 times the odds of 6-month mortality (OR 4.81, 95%CI 1.56-14.8, p=0.006) compared to those without CMV viraemia.

After adjustment for age, sex, CD4 count, baseline ART status and CrAg status, CMV viraemia remained strongly associated with increased 6-month mortality (aOR 4.39, 95%CI 1.36-14.2, p=0.01). Minimally invasive autopsies were performed for six participants with CMV viraemia, showing confirmed CMV end-organ disease in two participants *(Table 1)*.

Baseline clinical details	CD4 cell count in cells/μL	Baseline CrAg status	ART status	Baseline CMV qPCR VL (IU/ml)	Time to death (days)	Histological evidence of CMV end organ disease at MIA	MIA evidence of co-prevalent AIDS defining illness
42M	19	Negative	ART naive	311	24	CMV pneumonitis: Enlarged cell with CMV confirmed by immunohistochemistry (arrow). 	Pneumocystis pneumonia
25F	12	Positive	ART naive	285,980	6	CMV pneumonitis: CMV inclusion body (arrow), CMV confirmed by immunohistochemistry (not shown). 	Kaposi's sarcoma

Abbreviations: CrAg = Cryptococcal antigen, ART = Anti-retroviral treatment, CMV = cytomegalovirus, qPCR = quantitative polymerase chain reaction, VL = viral load, MIA = minimally invasive autopsy.

Table 1. Baseline demographics. clinical details and CMV testing results from two study participants who underwent minimally invasive autopsy (MIA) with confirmed CMV end organ disease.

Conclusions: CMV viremia represents a potentially modifiable risk factor amongst adult outpatients living with advanced HIV disease. A randomised trial of anti-CMV treatment to improve survival in this high-risk population is needed.

EP0106

Genetic insights into HIV-1 and risks of COVID-19 susceptibility, hospitalization and severity: a Mendelian randomisation study

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Background: Observational studies have suggested a potential association between HIV infection and the susceptibility and progress of COVID-19. However, the causal relationship remains unknown.
Our study aimed to explore the possible causal relationship between HIV-1 infection and risks of COVID-19 susceptibility, hospitalization, and severity, using the two-sample Mendelian randomization (MR) method.
Methods: Summary statistics from the genome-wide association studies (GWAS) of a meta-analysis of HIV-1 infection (7,303 cases and 587,343 controls) and the COVID-19 Host Genetics Initiative of European ancestry were used for analysis.
The primary approach employed was the random-effects inverse-variance weighted (IVW) estimation method, accompanied by several alternative estimators serving as supplementary methods.
Results: We selected 16 SNPs associated with HIV-1 infection as instrumental variables (IVs). IVW analysis indicated that genetically predicted HIV-1 infection was not significantly associated with COVID-19 susceptibility (OR 1.00, 95% CI 0.96-1.05; P value 0.865), hospitalization (0.98, 0.90-1.07; 0.687), and severity (1.00, 0.88-1.14; 0.994). Similarly, no significant association was observed in other models.
Conclusions: This study demonstrated that HIV-1 infection may not be causally associated with risks of COVID-19 susceptibility, hospitalization, or severity. Nevertheless, further research and interventions targeting this vulnerable population are still warranted to ensure positive health outcomes for PLHIV in the post-pandemic era.

EP0107

Syndromic vs etiologic management of vaginal discharge among sexually active young adult women in Kigali, Rwanda

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Background: Syndromic management of sexually transmitted infections (STIs) is widely recommended in resource-limited settings but often results in misdiagnosis and inappropriate therapy. The most recent guidelines introduced in July 2024 in Rwanda recommend empirical treatment for Neisseria Gonorrhoeae (NG), Chlamydia Trachomatis (CT), Trichomonas Vaginalis (TV) and Candida (CA) when women present with symptomatic vaginal discharge and presence of muco-purulent discharge from the cervix (cervicitis) on physical exam, and treatment for bacterial vaginosis (BV), TV and CA if there is no discharge from the cervix (vaginitis).
The present study was conducted to assess the accuracy of the syndromic management of vaginal discharge.
Methods: From 19 November 2024 to 31 December 2024, we enrolled 497 women with symptomatic vaginal discharge. An endocervical swab was sampled on women who were not menstruating. Microscopy was used to detect BV, TV and CA; point-of-care nucleic acid testing was used to detect NG and CT.
Results: Of the 497 women enrolled, 469 (94.4%) provided an endocervical swab, and 38 of these (8.1%) had cervicitis, while 431 (91.9%) had vaginitis. Overall, 388 women (82.7%) were diagnosed with at least one infection, including BV (65.0%); CA (29.6%); NG (25.4%); CT (18.6%); and TV (11.7%). Among the 38 women with cervicitis, 21.1% were co-infected with both NG and CT, 42.1% had not neither NG nor CT, and none had concomitant infection with NG, CT, TV and CA. Among the 431 women with vaginitis, 33.6% were diagnosed with either NG or CT, but only 1.2% were co-infected with BV, TV, and CA; 24.8% had none of these infections.
Conclusions: This study demonstrates a significant disconnect between syndromic and etiologic STI management. In 42.1% of cases of cervicitis, the syndromic approach may result in needless therapy for NG and CT. Likewise, in women with vaginitis, syndromic treatment overtreats about a quarter of women, and it fails to treat NG or CT in a third of them.
These results highlight the necessity of shifting to etiologic STI treatment under the guidance of diagnostic instruments such as point-of-care nucleic acid testing and microscopy.

EP0108

Prevalence of tuberculosis and rifampicin-resistant tuberculosis among clients with advanced HIV disease in Akwa Ibom State, Nigeria: a retrospective analysis

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Background: Tuberculosis (TB) is the leading cause of morbidity and mortality among people living with HIV (PLHIV), accounting for one-third of all deaths. Advanced HIV disease (AHD) presents a heightened risk for opportunistic infections, including TB.

This PEPFAR-and USAID-funded Excellence Community Education Welfare Scheme (ECEWS)-led study aimed to analyze the prevalence of TB and rifampicin-resistant TB (RR-TB) among clients with AHD.

Methods: A retrospective analysis was conducted using program data from the electronic medical record in Akwa Ibom State, Nigeria, focusing on all newly diagnosed HIV-positive clients (TX_NEW) with AHD from January 2023 to August 2024. AHD was defined as HIV clients <5 years and HIV clients ≥5 years with World Health Organization (WHO) clinical stage 3 or 4 or a CD4 count of <200 cells/mm³. Client-level data included demographic information (age and sex), geographic data (rural and urban), WHO clinical staging, CD4 counts, and lateral flow lipoarabinomannan (LF-LAM) and GeneXpert test results. The prevalence of TB and RR-TB and their association with CD4 counts were analyzed using chi-square tests to assess statistical significance.

Results: In total, 3,287 individuals were diagnosed with AHD out of 14,762 TX_NEW clients, with a mean age of 32 years (±15.9 years); 64.8% (2,129/3,287) were female. Of these individuals, 11.7% (383/3,287) were children <5 years, 12.5% (412/3,287) were diagnosed with AHD based on WHO clinical staging, and 85.2% (2,802/3,287) were diagnosed using CD4 counts, of which 306/2,802 (10.9%) were children <15 years.

TB diagnostic tests were conducted on 77.9% (2,561/3,287) of individuals, and 30.4% (778/2,561) were diagnosed with TB. Urine LF-LAM identified 85.5% (665/778) of TB cases, while GeneXpert detected 14.5% (113/778), including 4.4% (34/778) with RR-TB. RR-TB was evenly distributed between males and females (50%, 17/34 each), predominantly found in individuals ages 35–49 (44.1%, 15/34, p <0.001), and rural facilities accounted for 94.1% (32/34, p <0.001) of cases. Among RR-TB cases, 91.2% (31/34) had CD4 counts <200 cells/mm³.

Conclusions: These findings highlight the burden of TB infection and RR-TB among clients with CD4 counts <200 cells/mm³ and emphasize the importance of integrating AHD screening and TB diagnostics for PLHIV.

EP0109

Diagnosing opportunistic infections among people with advanced HIV disease: results of a quasi-experimental study in Côte d'Ivoire

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Background: The timely diagnosis and treatment of opportunistic infections (OIs) is crucial for the survival of people with advanced HIV disease (AHD) and is an essential aspect of the recommended care package. We implemented an intervention with an AHD care package in five health districts of Côte d'Ivoire.

This abstract reports on the most common OIs diagnosed among clients with AHD.

Description: From September 2023 to August 2024, an AHD care package (i.e., CD4 staging, screening, diagnosis and treatment of opportunistic infections, prophylaxis and preventive treatment) was provided in 30 healthcare centers based on a hub and spoke model. Eligible clients were newly admitted to care, returning to care, and in therapeutic failure. The quasi-experimental study compared data from the pre- and post-intervention periods (socio-demographic, clinical, and biological). Data were extracted from clients' files and captured in a database. A descriptive analysis was completed with frequencies and proportions using post-intervention period data (September 2023 to February 2024).

Lessons learned: Overall, 789 (35.3%) of the 2,235 eligible clients were diagnosed with AHD, the majority of whom were newly admitted (n=595; 74.7%) and female (n=490; 62.1%). There were 375 (45.7%) clients diagnosed with at least one opportunistic infection (OI). A total of 729 (92.3%) AHD clients were screened for tuberculosis and 283 (35.9.%) were diagnosed, including 169 females (59.7%); 39 (10.4%) AHD clients had oral candidiasis. Screening for neurological symptoms was systematically completed among 724 (91.8%) clients, with 17 neuro-abnormal results (2.3%) (mental deficiencies, focal neurological deficits, convulsions, and cranial neuropathies). Sixteen clients (2.0%) were positive for cryptococcal antigen test, with 1 (0.1%) diagnosis confirmed and treated for cryptococcal meningitis. Fourteen clients (1.8%) who had neurological symptoms and no evidence of cryptococcal disease or tuberculosis meningitis were empirically initiated on toxoplasmosis treatment and responded well, leading to a diagnosis of cerebral toxoplasmosis.

Conclusions/Next steps: Tuberculosis remains the most prevalent opportunistic infection among AHD clients. Toxoplasmosis was surprisingly more frequent than cryptococcosis, and had the potential for under-diagnosis. Our findings highlight the importance of screening and diagnosis of OIs among AHD clients. There is a need to strengthen laboratory services to optimize the care of this population.

EP0110

HPV prevalence among HIV cohorts in Nairobi and Kajiado Counties of Kenya: a retrospective data review from October 2023 to November 2024

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Background: Sub-Saharan Africa is increasingly bearing the brunt of Human Papilloma Virus/ Human Immunodeficiency virus (HPV/HIV) co-infection. In Kenya, Cancer is the third leading cause of death after infectious and cardiovascular diseases. Cervical cancer which is caused by HPV infection and breast cancer are the two leading causes of cancer related deaths.
We aimed to investigate the prevalence and distribution of HPV among HIV positive female population in Nairobi and Kajiado Counties of Kenya from October 2023 to November 2024.
Methods: A cross-sectional study that included HIV- Positive females aged 18-73 years. The study involved analyzing HPV and HIV viral load data from the National AIDS Control Program's (NASCOP) Early Infant Diagnosis/Viral Load testing database. Excel was used for data retrieval and Python program for performing analysis of variance using (95%CI, p=0.05). Results were visualized using bar graphs and box plots.
Results: A total of 3816 records were sampled. The overall HPV prevalence was 39.84%; other high risk HPV variants most prevalent in the two counties (31.78%), HPV16 (8.93%) and HPV18 (7.50%). The HPV positivity rate was about 0.68% aged (in years) (18-20), 0.41% aged (21-30), 0.40% aged (31-40), 0.39% aged (41-50), 0.395% aged (51-60), 0.397 aged (61-70) and 0.68 aged 71 and above.
Kajiado County registered a higher prevalence of HPV16 (12.57%) & HPV18 (8.68%) than Nairobi; HPV16 (8.62%) and HPV18 (7.55%). The positivity rates within 18-20 years and 70+ age brackets were higher compared to age groups from 21-70.
There was a persistent HPV prevalence above the age of 70. This may have resulted from inadequate clearance of the HPV from the body even as these clients advance in age. HPV prevalence in Kajiado County was higher compared to Nairobi, though the number of samples screened was lower than those in Nairobi.
Conclusions: There is a need to scale up screening among HIV positive and negative female populations and to have follow-up of clients that turn positive for HPV 16/18/ and other high-risk strains. We propose additional studies to determine the time period and factors that lead to viral clearance and complete recovery.

EP0111

HIV serostatus and uptake of cervical cancer screening among women in Uganda. A cross-sectional survey

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Background: Cervical cancer (CC) is the most prevalent cancer among women in Uganda. Early screening is key for prompt management. Screening is often through visual inspection with acetic acid for HIV-negative women and Human Papillomavirus (HPV) DNA testing for HIV-positive women, through the President's Emergency Plan for AIDS Relief (PEPFAR) program.
We explored the relationship between HIV serostatus and the uptake of CC screening among women in Mukono and Wakiso districts, Uganda.
Methods: This cross-sectional survey involved 600 women aged 25-65 years, randomly selected during 08th January and 15th December 2024. An interviewer-administered questionnaire was used to collect data on demographics, HIV status, knowledge, and history of CC screening after informed consent. Multivariable logistic regression was done to establish significant factors.
Results: The mean age was 40 years, with the majority being self-employed (68.8%,413) and living in rural areas (58%, 348). Over half were married (57.8%,347) and of low economic status (61%,366).
Almost all had heard of CC screening (94.7%,568), and nearly one in four had been screened (22.3%,134). One in ten were HIV infected (9.5%,57). Seven in ten HIV-positive women had ever been screened, while only nearly two in ten HIV-negative women had ever been screened.
Uptake of CC screening was associated with increasing age [AOR 1.0, 95% CI (1.0-1.1)], secondary education [AOR 3.1, 95%CI (1.5-6.4], tertiary education [AOR 6.0, 95%CI (2.3-15.4)], knowing someone who has gone for screening [AOR 2.0, 95%CI (1.2-3.3)] and awareness of where to go for screening [AOR 2.7, 95%CI (1.0-7.3)] and being HIV infected ([AOR 13.5, 95%CI (6.5-27.7)].
Conclusions: The low screening uptake among HIV-negative women impacts efforts to eliminate CC by 2030. Emphasis on universal screening and tackling systemic barriers to healthcare access for all women, irrespective of HIV status is key to CC elimination.

EP0112

Implementation of urine-based HR-HPV testing for cervical cancer prevention in a rural clinic in Eswatini

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Background: Cervical cancer (CC) is a major public health issue in Eswatini. Socio-cultural, economic, and policy barriers restrict women's access to screening and preventive services, leading to late diagnoses and high mortality rates. This is exacerbated by the high prevalence of HIV (28% among adults), which increases susceptibility to high-risk human papillomavirus (HR-HPV) infections and CC development.

Our project aims to implement a "screen, triage and treat" prevention programme introducing a non-invasive urine-based HR-HPV testing at St. Philip's Clinic, a rural primary care centre in Eswatini.

Methods: During the 12-month pilot phase (January 2023-February 2024), 508 adolescent girls and women (ages 13–49) were offered and consented to screening by providing a urine sample. After concentration through centrifugation, 1mL of urine sample was tested via Xpert® HPV test (Cepheid) for HR-HPV detection.

Sociodemographic data and HIV status were collected via REDCap. HR-HPV-positive women underwent further assessment with visual inspection with acetic acid (VIA) and treatment, if necessary.

Results: 454 out of 508 participants obtained conclusive Xpert® HPV results. Notably, 228 (45%) women were CC screened for the first time in this program. 189 women tested positive for HR-HPV (41.6%) (median age 27). Among HR-HPV-positive women, 51% were women living with HIV (WLHIV), which showed a 1.9 times increased risk of being HR-HPV positive compared to HIV-negative girls and women (95%IC 1.3-2.7).

VIA was performed in 93 women, with pre-cancerous lesions found in 4. Treatment was performed locally through thermocoagulation or at nearby clinics by loop electrosurgical excision procedure. 96 HR-HPV-positive women were considered lost at triage.

Conclusions: Our project revealed a high prevalence of HR-HPV among Swazi women highlighting the urgency for improved access to effective, rapid, and acceptable screening tools, especially for younger and WLHIV, who face heightened risk due to immunosuppression. Urine-based HR-HPV testing in rural settings appears feasible and acceptable, potentially increasing adherence to screening. Challenges such as inconclusive results and loss at triage highlight the importance of strengthening community engagement, enhancing linkage to care, and integrating CC prevention into routine HIV services. Addressing these gaps could significantly reduce CC burden, offering a scalable model for other high-burden, resource-limited settings.

EP0113

Mortality and causes of death among antiretroviral-therapy naïve adults undergoing systematic screening for intensified tuberculosis case-finding and tuberculosis preventive therapy in Uganda

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Background: In Africa, early mortality after ART initiation is high (8-26% at 12-months post-ART initiation), with tuberculosis (TB) accounting for >50% of all deaths. Although intensified case-finding (ICF) and TB preventive treatment (TPT) improves HIV outcomes, implementation has been suboptimal. We evaluated mortality post-ART initiation and causes death among PWH in the context of rigorous TB screening.

Methods: From 11/2020-01/2023, we enrolled consecutive adults initiating ART from four clinics in Uganda in a trial comparing different WHO-recommended TB screening strategies (NCT04557176).

All participants underwent baseline systematic TB screening and ICF (confirmatory testing if screen-positive) or assessment for TPT eligibility (if screen-negative) and followed participants for 2 years.

Decisions to initiate TB treatment or TPT for any participant (regardless of screening result) were made by routine clinicians based on test results and clinical assessment. For participants who died, we describe clinical characteristics and cause(s) of death.

Results: Of 1,719 total participants, 75 (4%) deaths were recorded during 3,318 person-years of follow-up for a 2-year mortality rate of 2.3 per 100-person years (95%CI: 1.80-2.83). Median time-to-death was 83 days (95%CI: 23-316). Of those who died, 64/75 (85%) screened-positive for TB at enrollment, 28 (37%) had prevalent TB, and 10 (13%) received TPT. Active TB was identified as a major cause of death for 29/75 (39%) participants, of whom five deaths (7% of all deaths) were attributed to incident TB, one of whom received TPT. Other common causes of death included non-TB AIDS-related conditions (18/75, 24%) and TB drug-related hepatotoxicity (12/75, 16%), including two deaths (3% of all deaths) attributed to TPT.

A. Demographic and clinical characteristics	Died (n=75)
Female sex	31 (41%)
Age (median years, [IQR])	37 (32-44)
Pre-ART CD4 count (median cells/uL, [IQR])	73 (24-228)
TB screen positive	64 (85%)
Prevalent TB	27 (36%)
Urine LAM- or sputum Xpert Ultra-positive	18/27 (67%)
Received TPT	10 (13%)
B. Causes of mortality[1]	
Active TB	29 (39%)
Prevalent TB	24 (32%)
Incident TB	5 (7%)
TB drug-related hepatotoxicity	12 (16%)
TB treatment-related	10 (13%)
TPT-related	2 (3%)
Non-TB AIDS-related conditions[2]	18 (20%)
Non-AIDS-related infections	8 (11%)
Non-communicable disease	9 (12%)
Unknown	13 (17%)

[1]Other causes of death include trauma (6, 8%) and pregnancy-related deaths (2, 3%). [2]Includes AIDS-related opportunistic infections, malignancies, and IRIS.

Conclusions: Both mortality and the proportion of deaths due to TB among PWH undergoing rigorous screening for ICF and TPT eligibility were lower than prior estimates. Nonetheless, TB remained the leading cause of death; improved TB diagnostics and closer treatment (including TPT) monitoring are needed.

EP0114

The prevalence of oral HPV and oral lesions in people living with HIV in HIV primary care clinics

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Background: People living with the Human Immunodeficiency Virus (PLWH) are at increased risk of oropharyngeal cancer. The Human Papillomavirus (HPV) is a risk factor for this cancer and PLWH have a higher prevalence of oral HPV. The presence of oral lesions and associated risk factors needs further evaluation.

Methods: This study was conducted at three HIV clinics in Denver, CO, Milwaukee, WI and St Louis, MO. Eligibility criteria included PWLH who had a CD4 count above 200 cells/mm³, at least two clinical visits, and no history of oral cancer. An oral sample was provided by rinsing using alcohol-based mouthwash and analyzed using the DDL SPF10 LiPA assay for 13 high-risk (hr)HPV types. Head/neck exams were performed by the clinic dentist. Demographics, HIV viral load, CD4 count, smoking, oral hygiene, alcohol use, HPV vaccine status, genital dysplasia and sexual history from medical records were described.

Results: The study enrolled 301 participants (Denver: n=273; Milwaukee: n=27; St. Louis: n=1). Median age was 49 years and 93% of participants were male. HIV viral suppression (<200 copies/ml) was 98.3% and 80% had CD4 > 500 cells/mm³. Participants identified as Caucasian (72%), African American/Black (19%), and as Latino/Hispanic (19%). HPV was detected in 34% of the participants, 9.3% had hrHPV and three had type 16.

Of the 290 participants who underwent head and neck exams, 26 had physical findings or concerning symptoms and six had clinical lesions and/or symptoms requiring follow-up. Three with hrHPV had visible lesions.

Of the 28 participants with oral hrHPV, 15 (53.6%) had a history of anal and/or cervical dysplasia and 25% had history of any type of HPV vaccine. HrHPV types were found in PLWH engaging in oral sex (9%), a >20 pack-year smoking history (10%), and alcohol consumption of three or more drinks a day (7%).

Conclusions: This is one of the few studies done in a primary health care clinic which includes HPV typing, genital health, HPV vaccine information, sexual and substance use with oral exams and oral lesions. Improving access and following comprehensive oral exams should be considered part of the primary care of PLWH.

EP0115

Integrated CECAP and ART services increase access to cervical cancer screening for women living with HIV at health facilities in Malawi

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Background: Malawi has amongst the world's highest cervical cancer incidence and mortality; cervical cancer accounted for 37% of all new cancer diagnoses in Malawian women in 2020. Women living with HIV (WLHIV) have six times increased risk of developing cervical cancer. Screening and early treatment can prevent cervical cancer, and Malawi National cervical cancer prevention (CECAP) guidelines recommend CECAP screening for women 25-49 years, but CECAP screening services are limited. We scaled up support to CECAP screening and treatment services through intensive programmatic support at health facilities (HF) supported by Baylor College of Medicine Children's Foundation Malawi Tingathe program to increase access to CECAP services in 5 supported districts.

Methods: We describe the expansion of CECAP programming from 25 to 69 HF between 2023 and 2024. HFs with large cohorts of WLHIV and two trained CECAP providers were identified and selected for intensified support. At HF level engagement sessions, barriers to CECAP provision were identified and addressed including procurement of needed supplies; implementation of integrated demand creation, linkage and referral systems; and establishment of reporting and HF screening targets. Ministry of Health

district CECAP coordinators conducted routine supportive supervision and mentorship to all HFs, and Tingathe CECAP nurses provided additional support to new HFs. Routine Tingathe CECAP program reports from April 2023 to March 2024 were analyzed.

Results: From April-September 2023, 15359 women completed CECAP screening. In Oct 2023, the 44 additional HF were engaged. Between October 2023-March 2024, 17510 women were screened, 14% (n=2151) increase. Newly introduced sites (n=44) contributed 3253 (19%) of women screened post-expansion. Rates of identified VIA+ lesions were unchanged pre- and post-intervention at 2.4% and 2.5% respectively. Same day treatment linkage for women with treatment-eligible lesions remained high pre- and post-intervention at 98% (321/327) and 96% (364/379). Throughout, tracing and follow-up for untreated women was ongoing, and women with treatment ineligible lesions were referred for specialist consultation.

Conclusions: Expansion of integrated CECAP and ART services with targeted mentorship, supervision, and engagement can quickly identify and address CECAP service provision gaps to optimize systems, fully engage available human resources and deliver lifesaving CECAP services.

EP0116

High risk human papillomavirus genotypes from anal canal in men who have sex with men living with HIV and associated factors for anal acquisition (GAIA Study)

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Background: To determine the prevalence and associated factors for anal high-risk HPV acquisition in men who have sex with men living with HIV (MLH).

Methods: A cross-sectional study was conducted in the Hospital de Infectología, "La Raza" National Medical Center on MLH over 18 years old from January to July 2024. Sociodemographic, clinical and laboratory data was collected, including HPV vaccination history; detection and genotyping were performed from anal swabs using multiplex real-time PCR to identify twenty-eight HPV genotypes.

Results: 200 MLH were included, with a median age of 29 years old (IQR 25-36) and a median age for first sexual contact of 17 years old (IQR 16-19). 127 MLH (63.5%) were on an INSTI-based regimen, 68 (34%) were on a PI-based regimen and 5 (2.5%) were on a NNRTI-based regimen. Regarding HPV vaccination, 67 (33.5%) reported having received at least one dose and only 4.5% had the recommended 3 doses. 180 (90%) MLH tested positive for HPV, of which 155 (77.5%) had at least one high-risk genotype. The most frequent high-risk genotypes were GT16 in 43 (21.5%), GT18 in 34 (17%) and GT53 in 32 (16%). No associations were identified between high-risk genotypes and epidemiological factors, sexual behaviors, or rutinary studies. However, INSTI-based regimens were associated with a protective effect for GT16 OR 0.45 (95%CI 0.23-0.91, P=0.024) and for GT33 OR 0.29 (95%CI 0.094-0.90, P=0.041). On the other hand, PI-based regimen showed an association with HPV acquisition, specifically for GT16 OR 2.6 (95%CI 1.3-5.3, P=0.004) and for GT35 OR 2.5 (95%CI 1.0-6.38, P=0.048).

Genotype	Frequency (%)
GT16	43 (21.5)
GT18	34 (17)
GT51	32 (16)
GT53	32 (16)
GT39	31 (15.5)
GT58	29 (14.5)
GT66	28 (14)
GT56	27 (13.5)
GT59	24 (12)
GT68	21 (10.5)
GT35	20 (10)
GT31	17 (8.5)
GT73	17 (8.5)
GT52	16 (8)
GT33	14 (7)
GT69	14 (7)
GT45	13 (6.5)
GT82	10 (5)
GT26	1 (0.5)

Table 1. High Risk HPV Genotypes.

Conclusions: People living with HIV are at high risk for anal acquisition of malignancy-associated HPV genotypes; INSTI-based regimen had protective effect for GT16 and GT 33, in contrast PI-based regimen was found to be associated with GT16 and GT35.

EP0117

Prevalence and molecular characteristics of chlamydia and gonorrhea infections in a cohort of Kenyan female sex workers

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Background: In Kenya, sexually transmitted infection (STI) management is symptom based, and as a result, the current prevalence and incidence of chlamydia and gonorrhea infections are not known. In addition, the distribution of circulating strains and antibiotic resistance remain poorly characterized.

Methods: This project aims to characterize chlamydia and gonorrhea prevalence and characteristics in a cohort of Kenyan female sex workers. Participants were recruited through the Sex Worker Outreach Program (SWOP) based in Nairobi, Kenya as part of an ongoing HPV study. Urine

and cervicovaginal samples were collected bi-monthly over 12 months. STIs were diagnosed by GeneXpert at screening, while confirmatory tests and longitudinal testing were performed using rRNA amplification with the Hologic Aptima Combo 2 assay. Chlamydia-positive samples were genotyped by Sanger sequencing of the ompA gene, which can differentiate between all 19 chlamydia serovars. Gonorrhea-positive samples were typed by *Neisseria gonorrhoeae* Multi-Antigen Sequence Typing (NG-MAST), targeting the porB and tbpB genes, and then tested by RT-PCR to predict resistance to cephalosporins, ciprofloxacin, and azithromycin.

Results: 1868 sex workers were screened for the study, and 701 HPV positive women were enrolled. Participants had a median age of 31 (IQR: 25-37), were 94% cis-women, 13% HIV-positive, and 71% reported condom use during most recent intercourse. Based on sample availability, 376 participants were selected for longitudinal STI testing at enrollment, month-4, 8 and 12.

Results from enrollment and month 4 visit show chlamydia prevalence of 9.8% (95% CI 7.0-13.5) and 15.4% (95% CI 10.0-23.0), and gonorrhea prevalence of 3.7% (95% CI 2.1-6.3) and 4.3% (95% CI 1.8-9.6), respectively. Chlamydia typing revealed serovars D (13.0%), E (16.5%), F (26.1%), G (22.6%), I (11.3%), J (0.9%) and K (9.6%). Gonorrhea testing identified all new NG-MAST sequence types with high ciprofloxacin resistance (92%). Testing and characterization of the follow-up samples are ongoing.

Conclusions: The prevalence of chlamydia and gonorrhea in this population was higher than the overall estimates for the African region. A diverse assortment of chlamydia and gonorrhea types is evident.

Further identification of bacterial types and antimicrobial resistance in this cohort will impact Kenyan STI prevention and treatment policies, contributing to global STI control.

EP0118

Immune subphenotypes associated with 30-day mortality in adults living with advanced HIV and hospitalized with sepsis in Uganda

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Background: Immune subphenotype data from adults with sepsis and HIV in Africa are limited. While excessive inflammation is detrimental, natural antibodies (NAbs), particularly IgM NAbs, may limit inflammation. We determined associations between cytokines, NAbs, and outcomes in adults hospitalized with sepsis and living with HIV (LWH) in Uganda.

Methods: Among adult participants LWH who were hospitalized with sepsis and enrolled in a fluid resusciation study at two referral hospitals in Uganda, we collected serum samples to characterize immune phenotypes through measurement of 17 cytokines and 6 NAbs plus total IgA, IgM, and IgG. We determined associations between clinical parameters, including the Universal Vital Assessment (UVA) mortality risk score, and 30-day mortality, tuberculosis (TB), and bloodstream infection (BSI) using multivariable logistic regression and principal component analysis (PCA).

Results: Of 175 participants, 101 (58%) were female. Median (IQR) age was 35 (28-40) years and CD4+ T-cell concentration was 37 (11-111) cells/μL. In univariate analysis, IL-6, IL-8, and MIP-1β were associated with increased 30-day mortality ($p<0.05$); anti-ApoB100-IC IgM and anti-P1 IgM were associated with decreased 30-day mortality ($p<0.05$). PCA identified a cluster of IL-6, IL-8, MCP-1, IL-1β, and GM-CSF as most associated with 30-day mortality; and a cluster of anti-ApoB100 IC IgA, total IgM, and total IgA antibodies that was associated with 30-day survival.

Adding IL-8 to the UVA score increased its AUC from 0.58 (95%CI 0.45-0.66) to 0.71 (95%CI 0.62-0.80). A clinical and immune-based logistic regression model that included IL-8, IL-10, MIP-1β, anti-ApoB100 IC IgM, anti-P1 IgM, and blood lactate predicted 30-day mortality with an AUC of 0.79 (95%CI 0.71-0.87).

Logistic regression models that either included IL-8, IL-10, TNF-α, CD4, and blood lactate, or IL-8, TNF-α, IL-6, IL-10, CD4, blood lactate, and UVA score predicted TB and BSI with AUCs of 0.64 (95%CI 0.45-0.75) and 0.66 (95%CI 0.52-0.77), respectively.

Conclusions: In adults LWH and hospitalized with sepsis, we found a positive correlation between mortality, TB, and BSI and a subphenotype comprising pro-inflammatory cytokines; whereas, a subphenotype comprising IgM NAbs was inversely correlated with mortality. Cytokines improved the ability of UVA score to predict sepsis outcomes.

EP0119

Identifying sexually transmitted infections (STIs): the added value of extragenital gonorrhea and chlamydia testing beyond urogenital screening in sexual minority men (SMM) with HIV

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Background: The standard of care for diagnosing *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG), urogenital nucleic acid amplification tests (NAATs), has been found to miss infections in extragenital sites. The objective of this study was to evaluate the benefit of the

testing extragenital sites in sexual minority men (SMM) at a clinic for persons with HIV in a marginalized community in the United States.

Methods: This retrospective cohort study examined electronic health records from an HIV clinic within an academic health system from January 1, 2023, to July 1, 2024. Inclusion criteria for this analysis were: at least 18 years of age, cisgender males and transgender women who self-reported sexual contact with male partners that had a rectal, pharyngeal, and rectal CT/NG NAAT performed. The primary endpoint was to compare urogenital and extragenital testing sites in detecting gonorrhea or chlamydia in sexual minority men at our clinic. Variables analyzed will include the impact of age, race/ethnicity, sex assigned at birth, sexual orientation, use of pre- or post-exposure prophylaxis for prevention of Sexually Transmitted Infections (STIs), condom use, and number of partners on test outcome.

Results: We evaluated 672 specimen samples from 112 individual visits where urogenital, rectal, and pharyngeal sites were tested for CT/NG. The mean age of subjects was 34.8 yo. Hispanic individuals made up 79% of the cohort, with those who identify as Black representing 9.5% of cohort. The median number of lifetime partners was 5. Positivity rates were: overall 9.97% (4.17% CT, 5.8% NG); urogenital 3.57% (0.893% CT, 2.68% NG); rectal 16.5% (9.82% CT, 6.70% NG) and pharyngeal 9.82% (1.79% CT and 8.04% NG). In 82% (37/45) of the cases, a positive CT or NG was detected in either a rectal or pharyngeal test with the urogenital site specimen testing negative, 92.6% (25/27) and 66.% (12/18) of CT and NG diagnoses, respectively.

Conclusions: This retrospective study emphasizes the critical role of rectal and pharyngeal testing in detecting sexually transmitted infections (STIs) among sexual minority men (SMM) with HIV. Expanding extragenital testing protocols can improve detection rates, facilitate timely treatment, and ultimately enhance health outcomes for SMM.

EP0120

Hepatitis B surface antigen positivity and associated factors among people living with HIV accessing care at antiretroviral therapy clinics, Andhra Pradesh, India, 2024

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Background: People living with HIV (PLHIV) have a higher burden of hepatitis B virus (HBV) due to shared routes and risk factors for transmission. Globally the prevalence of HBV infection among PLHIV is estimated at 7.4%. In India, most (>90%) PLHIV access antiretroviral therapy (ART) care in public sector. We analysed the Hepatitis B Surface Antigen (HBsAg) positivity and associated risk factors among PLHIV accessing HIV care in public sector.

Methods: Data from an observational cohort of a network of 53 ART clinics in Andhra Pradesh (AP) state was analysed. During November 2021-Novemebr 2024, HBsAg screening was integrated as a part of routine care and those negative for HBsAg were offered HBV vaccination. We extracted routine program data from the electronic database containing demographic, laboratory and clinical information. We calculated the HBsAg positivity and included the factors s with biological plausibility and $p<0.1$ in the multivariable model to determine the adjusted odds ratios (AOR) and calculated the 95% confidence interval (CI).

Results: We screened 223,892 PLHIV on ART for HBsAg. The median age was 43 years (IQR: 36-50), 54.5% were females and 14.5% were ART experienced. Overall, 3,804 (1.7%) were HBsAg positive and 90.5% (199,282/220,088) of those testing HBsAg negative received at least one and 66.5% (146,328/220,088) completed three HBV vaccine doses. After adjusting for selected covariates, PLHIV aged 20-49 years (AOR-2.68, CI: 1.92-3.73), & ≥50 years (AOR-2.59, CI: 1.85-3.62), male (AOR-2.06, CI: 1.93-2.21), members of key populations (AOR-1.28, CI: 1.03-1.60) CD4 ≤200 cells/mm3 at HBsAg screening (AOR-1.36, CI: 1.17-1.57), and CD4 200-350 (AOR-1.30, CI: 1.17-1.44) had higher odds of HBsAg positivity compared to persons aged <10 years, women, general population and CD4>500 cells/mm^3.

Conclusions: The analysis highlights the potential opportunity for HBsAg screening among the high-risk groups, males and with older age-bands at ART clinics. Integrated screening for HBsAg at ART clinics may be considered to enhance access for early HBV diagnosis in public sector hospitals.

EP0121

Impact of interventions to prevent mother-to-child transmission of hepatitis B virus in Rwanda: a modelling study

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Background: In Rwanda, the prevalence of chronic HBV was 4.0% in 2017, with intervention efforts relying on infant vaccination. In 2024, Rwanda introduced additional interventions to prevent mother-to-child transmission (PMTCT), including screening and treatment of pregnant women (PW) and birth dose (BD) vaccination of newborns of HBsAg-positive mothers (from April 2024). Exisiting HIV program infrastructure provided a strong foundation to set up the HBV PMTCT program. We evaluated the impact of these interventions and their scale-up.

Methods: A dynamic HBV transmission model was developed, including disease progression and vaccination. The model was parameterised and calibrated using Bayesian

methods to national data on HBsAg and HBeAg-prevalence, demographics, and vaccination coverage. PMTCT intervention data from 2024 informed the model: in July-September, 95% of PW were tested for HBsAg, 72% of diagnosed women received viral-load testing and 25% of their newborns received BD vaccination.
Additionally, 10% of PW tested for viral load initiating peripartum antiviral prophylaxis (PAP). We assessed the potential impact of these interventions in 2024 and over 2025-2030 assuming interventions continue at existing levels or are scaled-up such that by end of 2025, 95% of HBsAg-positive PW receive a viral-load test, 95% of PW with high viral-load initate PAP, and 95% of newborns receive BD, assuming universal BD vaccination from mid-2025.
Results: Projections suggest that in 2023, 43.2% (95% credibility interval: 38.0-48.3%) of new chronic HBV infections (CHB) were acquired vertically. The model estimates that PMTCT interventions averted 330 (or 9.2% [8.7-9.7%]) new CHB infections among newborns in 2024, and, if continued, could avert 23.6% (22.3-24.9%) of CHB infections among newborns over 2025-2030. Scaling-up BD vaccination could avert 74.1% (70.2-77.6%) of CHB infections among newborns over 2025-2030, with impact increasing to 78.9% (75.5-81.3%) if PAP is also scaled-up. In this scenario, HBsAg prevalence among children <5 years-old is projected to be 0.24% (0.19-0.30%) by 2030, compared to 1.0% (0.78-1.23%) without PMTCT interventions and 0.77% (0.61-0.97%) if interventions do not scale-up.
Conclusions: Mathematical modelling helps inform Rwanda program's progress towards HBV elimination. Although, the introduction of PMTCT interventions in Rwanda has had limited impact to date, they could have substantial impact if further scale-up is achieved.

EP0122

Cervical cancer screening among women living with HIV accessing ART in Northeastern Nigeria: a descriptive study

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Background: Cervical cancer remains a significant global health challenge, particularly for women in LMIC where access to screening and treatment services is limited.
This study assesses the uptake and outcomes of cervical cancer screening using visual inspection with acetic acid (VIA) among women living with HIV accessing Antiretroviral Therapy in Northeastern Nigeria.
Methods: This descriptive study used data from women aged 15 years and above in Northeastern Nigeria: Adamawa, Borno, and Yobe. The data represents a snapshot of all women currently in HIV care as of September 30, 2024, who have ever been screened for cervical cancer. It aims to examine cervical cancer screening uptake, outcomes, and predictors of screening uptake across various variables, including state, facility type, facility size, ART duration, and age.
Results: Of the 37,516 women on ART, 26,933 (72%) were screened for cervical cancer. Screening uptake was highest in Borno (77.4%), followed by Adamawa (73.4%) and Yobe (55.6%). Uptake was higher in primary healthcare facilities (79.8%) compared to secondary (70.7%) and tertiary facilities (75.2%).
Facilities within state capitals had higher screening rates (75%) than those outside (69.4%). The highest uptake was observed in women aged 25-49 (77.1%) and the lowest in those aged 50+ years (51.3%). Screening outcomes revealed that 98.3% of women had negative results, 1.3% tested positive, and 0.4% were suspected of having cancer. Women in Borno had higher odds of being screened than those in Adamawa and Yobe (AOR = 1.24, 95% CI: 1.18-1.31).
Screening was more likely in primary healthcare facilities (AOR = 1.31, 95% CI: 1.13-1.51) and among women aged 25–49 (AOR = 2.0, 95% CI: 1.83-2.18). The likelihood of screening increased with longer ART duration, peaking at 6–10 years (AOR = 2.35, 95% CI: 2.09-2.65), but was lower among facilities located outside state capitals (AOR = 0.76, 95% CI: 0.72-0.79).
Conclusions: Cervical cancer screening uptake among WLHIV in Northeastern Nigeria is suboptimal, with variation across states, facility types, and age groups.
To improve overall screening coverage, efforts should improve access and awareness in Yobe, facilities outside state capitals, among older women, and those accessing care at secondary or tertiary facilities.

EP0123

Point-of-care ultrasound for the diagnosis of tuberculosis in Mozambican infants hospitalized with severe HIV-associated pneumonia

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Background: Laboratory diagnosis of pulmonary tuberculosis (PTB) in infants remains challenging, contributing to high TB-related mortality. Younger age and advanced HIV disease increase the probability of having concurrent PTB and extrapulmonary TB disease, which could be detected by ultrasound. Focused assessment with sonography for HIV-associated TB (FASH), an exam performed at six thoracic and abdominal positions, has shown promise for pediatric TB diagnosis, but few infants were included in published studies.

Methods: EMPIRICAL (#NCT03915366), an EDCTP-funded (RIA2017MC-2013) randomized controlled trial, recruited infants <12 months of age hospitalized with severe HIV-associated pneumonia to assess the mortality impact of empiric TB and/or cytomegalovirus treatment in addition to the current standard of care. Current or past TB diagnosis and close TB contact were exclusion criteria. In an ancillary study performed at 5 hospitals in Mozambique from 2021-2024, participants had a baseline point-of-care FASH exam performed along with Xpert Ultra on stool and nasopharyngeal aspirates, and urine lipoarabinomannan (LAM). An analysis was done comparing FASH findings in participants with and without laboratory-confirmed TB.

Results: Among 78 participants, median age was 4.3 (IQR:3.2-6.4) months, 41 (52.6%) were female, and median CD4 was 14% (IQR:10%-22%). A total of 17 (21.8%) participants had laboratory-confirmed TB (16 LAM+, 1 stool Xpert+). There was ≥1 positive positional FASH finding in 41.2% and 29.5% of participants with and without laboratory-confirmed TB, respectively (p=0.362). Pericardial effusion was the most common positive finding in both groups (see Table).

	Laboratory-confirmed TB (n=17)	Without laboratory-confirmed TB (n=61)	Total (n=78)	p value
0 positive findings	10 (58.8%)	43 (70.5%)	53 (67.9%)	0.362
≥ 1 positive finding	7 (41.2%)	18 (29.5%)	25 (32.1%)	0.362
≥ 2 positive finding	2 (11.8%)	3 (4.9%)	5 (6.4%)	0.298
Pericardial effusion	4 (23.5%)	13 (21.3%)	17 (21.8%)	0.841
Pleural effusion	1 (5.9%)	1 (1.6%)	2 (2.6%)	0.391
Ascites	2 (11.8%)	4 (6.6%)	6 (7.7%)	0.606
Focal splenic lesions	2 (11.8%)	3 (4.9%)	5 (6.4%)	0.298
Focal liver lesions	0 (0%)	0 (0%)	0 (0%)	-
Abdominal lymphadenopathy	0 (0%)	0 (0%)	0 (0%)	-

Conclusions: Approximately one-third of participants in this ancillary study had at least one positive positional FASH finding, without significant differences between infants with and without laboratory-confirmed TB.
Future analysis will use standardized TB case classifications of confirmed, unconfirmed, and unlikely TB to assess the added diagnostic value of FASH for clinical TB diagnosis in this high-risk population.

EP0124

A low proportion of persons with HIV co-infected with tuberculosis (TB) have lung involvement on CT-scan when TB is diagnosed by urine LAM alone

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Background: In Uganda, urine LAM is the main diagnostic tool for tuberculosis (TB) in persons with HIV (PWH) with CD4 counts <200. It however remains unclear whether a positive urine LAM is detecting pulmonary or extrapulmonary TB. The overlap between urine LAM and sputum GeneXpert-based testing for TB is also unclear. We evaluated the association of both TB diagnostic tests and structural lung/pleural abnormality diagnosed with high-resolution chest CT scans.

Methods: Participants were enrolled within 44 days of TB treatment initiation. Our primary outcome was CT evidence of structural lung/pleural abnormality at enrollment defined as ≥1 of the following: bronchiolar disease, nodules, consolidation, ground glass opacity, or pleural effusion. We compared CT evidence of lung/pleural involvement by grouping participants by type and result

of diagnostic test: Urine LAM only positive, GeneXpert not done (LAM positive); LAM and GeneXpert concordant or GeneXpert only positive (GeneXpert positive); LAM and GeneXpert discordant (discordant). We used logistic regression to evaluate the association between type/result of diagnostic test and abnormal CT findings adjusting for the following confounders: prior TB diagnosis, CD4+ cell count, age, and sex.

Results: Among the 114 participants (mean±SD age 38±11 years, 43% female), 58% were in the LAM only group, 30% were in the GeneXpert positive group, and 12% were in the discordant group. Sixty-three percent had CT evidence of structural lung/pleural abnormality (nodules, 54%; consolidation, 28%; ground glass opacity, 21%; bronchiolar disease, 15%, pleural effusion, 6%), with lowest rates in the LAM positive group (50%), compared to the GeneXpert positive (88%) and discordant (64%) groups. After adjusting for CD4+ count and other confounders, those in the LAM positive group had lower odds of structural lung/pleural abnormality compared to those in the GeneXpert positive group (adjusted odd ratio=0.08; 95% CI 0.02, 0.33; p<0.001). Every 100 cells/ml increase in CD4 count was associated with 24% lower odds of structural lung and chest abnormality (95% CI: 0.61, 0.95).

Conclusions: Urine LAM-based TB diagnosis alone may reflect extrapulmonary TB with minimal lung or pleural involvement. Supplementing urine LAM with other diagnostic tools could be valuable in guiding clinical decisions regarding the selection of TB treatment regimen.

EP0125

Burden and outcomes of multiple etiology meningitis among people living with HIV in rural Northern Uganda

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Background: Globally, HIV remains a significant public health concern, with an estimated 39.9 million people living with HIV (PLWH) by the end of 2023. The burden is disproportionately concentrated in the WHO African Region, accounting for 65% of cases. HIV/AIDS is linked to several opportunistic pathogens, with Cryptococcal meningitis (CM) accounting for over 60% of life-threatening meningitis cases among PLWH. However, multiple etiology meningitis (MEM) and outcomes among PLWH in northern Uganda are poorly understood. MEM is defined as cases where more than one type of meningitis (e.g., cryptococcal (CM), bacterial (BM), tuberculous (TBM), or viral (VM) is present in a single individual.

This study aimed to assess the burden and outcomes of MEM among PLWH in rural northern Uganda, improving outcomes and preventing complication of meningitis in PLWH.

Methods: A retrospective study was conducted using secondary data from clinical record forms and individual files of PLWH diagnosed with meningitis and hospitalized at Lira Regional Referral Hospital (LRRH) from September 2021 to December 2024. Meningitis diagnoses were confirmed through CSF CrAg and culture for CM, TB GeneXpert for TBM, Pastorex and culture for BM, and BioFire for VM, BM, and CM. Descriptive statistics were employed for data analysis using R (version 4.4.1) software.

Results: There were 207 confirmed cases of meningitis among PLWH, the mean age was 26.5 years (IQR: 35.2), with a majority being male 108. MEM was identified in 23/207 individuals predominantly with underlying CM 21/23. CM-BM was the highest MEM combination, comprising 17/23 cases. CM-TBM, CM-VM, and BM-TBM each accounted for 2/23 cases. Overall mortality among all MEM was 65.2%. CM-TBM exhibited the highest mortality at 2/2, while BM-TBM reported no mortality. The mortality for CM-BM was 9/17.

Conclusions: MEM poses an unrecognized health challenge in rural northern Uganda, with high mortality among CM-TBM individuals. This study underpins the necessity for thorough screening and diagnosis of other meningitis etiologies in individuals with CM, given the high MEM burden in this population.

Further research is needed to understand the burden and mortality of MEM in PLWH, to elucidate the mechanisms and pathophysiology contributing to MEM and poor outcomes in this setting.

EP0126

Common HPV high-risk types at the Rustenburg CRS during the INSIGHT TRIAL

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Background: Human papillomavirus (HPV) is a sexually transmitted illness (STI) that can cause genital warts and certain types of cancer. It's one the most common STI following the curable STIs. Despite the vaccine program's for girls between 9 to 15 and the recommendation of women who are sexually active and HIV negative should begin HPV screening at age 25-there is a high prevalence of HPV amongst young woman.

Methods: The study involved women between the ages of 16 – 30 years of age, sexually active and interested in taking PrEP. 175 women were enrolled at Rustenburg Research Site between August 2022 until October 2022 with follow-up until July 2023. During the month 6 follow- up

visit HPV DNA testing was conducted on a sample size of n=138 (83%) of retained participants to screen for HPV and for high-risk types using cytobrush vaginal sample collection, once the HPV DNA test was positive an HPV assay 28 genotype test was done.

Results: 78 participants were found to have positive results of the high-risk types with a median age of 24. The following high risk-types were found: 16,18,31,35,39,45,51,52, 56,58,59,66,68 (17%; 6,4%; 9%; 11,5%;14,1%; 12,8%;16,7%;14,1%; 5,1%; 19%; 15,4%; 12,8%;15,4%).

The most prevalent high risk type was 58 ; n=15(19%) and lowest prevalent high-risk type was 56(5,1%); 51% had 2 or more high risk types. 65 (83%) were contacted for referral for PAP smear to their clinics; whilst the remainder were lost to follow-up post month 6.

Follow-up on PAP smear results was then completed through a national laboratory database and only n=5 out of 65 participants completed a PAP smear; of which n=4 had Negative for intraepithelial lesion or malignancy (NILM) – tests were completed in 2023 and 2024; n=1 had Low grade squamous intra-epithelial lesion(LSIL) of which the test was completed in 2023**.** Uptake of the referral letter was generally good (100%) but with only 5 traceable results.

Conclusions: With little data on the common types in Rustenburg; it's clear that HPV still poses a challenge, screening and vaccine programs seem to be have little efficacy with half the number of participants that were enrolled being positive.

EP0127

Exploring the potential for HBsAg loss in individuals with HIV and HBV: is this a reachable goal?

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Background: Functional cure of hepatitis B (HBV), defined as sustained loss of Hepatitis B surface antigen (HBsAg), is the optimal endpoint for available chronic HBV treatments. However, the incidence of HBsAg loss remains poorly characterized in individuals living with HIV and HBV.

This study aims to estimate the incidence of HBsAg loss in a cohort of individuals living with HIV and HBV in Argentina.

Methods: We conducted a retrospective medical chart review of individuals living with HIV and chronic HBV followed at an HIV/AIDS clinic in Buenos Aires, from 1989 to 2024. The clinic provides care to approximately 3,000 people living with HIV, with an estimated HBV coinfection prevalence of 3%. Descriptive statistics and non-parametric analyses (Wilcoxon t-test) were used.

Results: From the 90 initially estimated subjects with HIV/HBV co-infection, we identified 52 individuals, with data available for 38 (97% male at birth). With a median follow-up of 727 person-years, the median individual follow-up was 19 years (IQR 11-27) since HIV diagnosis and 12 years (IQR 7.5-20.5) since HBV diagnosis. Individuals' laboratory characteristics are described in Table 1.

Tenofovir (disoproxil or alafenamide) treatment was prescribed to all individuals with a median duration of 8.5 years. HCV coinfection was diagnosed in 31% of the individuals (67% received successful treatment with direct antiviral agents). HIV virological suppression was sustained for a median of 10 years (range 0-25). Three individuals (7.8%, 95% CI 2-21%) presented HBsAg loss after 5.3 years (range 1-13) of tenofovir therapy. One of them has received interferon for HCV treatment, losing HBsAg after 2 years of follow-up.

	Baseline	End of follow up	p value
CD4 cells/mL Median (IQR)	272 (164-501)	499 (217-908)	<0.0001
CD4% Median (IQR)	18 (11.5-23)	26 (14.5-35.5)	<0.0001
CD4/CD8 Median (IQR)	0.25 (0.1-0.4)	0.55 (0.2-0.87)	<0.0001
APRI score Median (IQR)	0.81 (0.5-2.3)	0.43 (0.32-0.94)	0.001
ALT Median (IQR)	52 (34-80)	31 (23-50}	0.024

Conclusions: In this cohort of individuals with HIV/HBV on long-term Tenofovir therapy, HBsAg loss occurred in less than 10% of cases, despite significant CD4 cell recovery and improvement in the APRI score.

Given the association of persistent HBsAg with a higher risk of hepatocellular carcinoma and immune dysfunction, exploring new treatment strategies to achieve functional cure in individuals living with HIV and HBV remains critical.

EP0128

Understanding the management of HPV-related skin disease in people living with HIV in Zimbabwe

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Background: Verruca plana and a more severe form, acquired epidermodysplasia, are caused by beta-cutaneous HPV viruses. The condition can be stigmatising and is linked to skin malignancy. The aim of this work was to understand the current management of verruca plana in an urban clinic in Harare, Zimbabwe as part of a quality improvement intervention.

Methods: Clinic records were extracted from 2004 until September 2024. Data including age, sex, age of HIV diagnosis, age of verruca plana diagnosis, CD4 nadir, viral load, HPV vaccination status, HPV related disease and SCC diagnosis was extracted of all patients with a diagnosis of verruca plana. Detailed case notes reviews were carried out for a subset of 50 patients (25 with HIV diagnosis > 30 years and 25 with HIV diagnosis < 30 years) which in-

cluded date of diagnosis, distribution of rash, treatment received, onward referral and presence of co-existent skin disease.

Results: Verruca plana was diagnosed in 395 people. Sixty percent of the population were male (n=237), median age was 28.1 years (IQR 23.6-32.6), median age of HIV diagnosis was 13.0 years (IQR 7.6-23.7) and of verruca plana diagnosis was 17.4 years (IQR 11.5-31.0). Median nadir CD4 count was 165 (IQR 81- 285) and 75.9% had a viral load <50 copies/ml. 20% of the population had received an HPV Vaccination. Four people (1%) with verruca plana were diagnosed with skin malignancy with a median age of skin cancer diagnosis of 24.6years (IQR 23.8-25).

Those with an HIV diagnosis under the age of 30 were more likely to have a generalised rash, 12% of patients were referred to dermatology, 72% of patients received a trial of treatment, most commonly cryotherapy (34%) or salicylic acid (32%) and 88% of patients had an additional skin diagnosis.

Conclusions: In this clinic, verruca plana was most common among those with HIV acquired before age 30. This population is more likely to have a generalised rash consistent with acquired epidermodysplasia verruciformis. The majority are managed outside of dermatology clinics and treatment varies. A small proportion of patients with verruca plana are diagnosed with skin malignancy in their early 20's.

EP0129

Performance of chest X-ray in identifying pulmonary tuberculosis cases among people living with HIV

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Background: Tuberculosis (TB) remains the leading cause of death among people living with HIV (PLHIV). TB symptom screening approach is widely used, especially in low- and middle-income countries; however, it fails to identify potential subclinical TB infections, which are more prevalent in PLHIV.

In this study, we assessed the performance of chest X-ray alongside symptom screening followed by GeneXpert *Mycobacterium Tuberculosis*/Resistance to Rifampicin (MTB/RIF) for the early detection of TB among PLHIV.

Methods: A cross-sectional study in 2015 evaluated symptom screening and chest X-ray for TB detection among PLHIV. Participants were screened for five TB symptoms: cough, night sweats, weight loss, fever, and known TB contact. All participants underwent digital chest X-ray screening. Those with abnormal X-rays or ≥1 symptoms were classified as presumptive TB cases. Sputum from presumptive cases was tested using GeneXpert MTB/RIF for confirmation. Sensitivity, specificity, and differences in positivity rates were calculated using McNemar's chi-square test ($p<0.05$).

Results: Among the 11,901 PLHIV screened, GeneXpert confirmed TB in 94 (0.8%) presumptive individuals. Of the 639 (5.4%) participants with typical TB symptoms, 52 (8.1%) tested positive. Chest X-ray identified abnormalities in 1,671 (14.4%) participants, including 42 asymptomatic patients later confirmed by GeneXpert. Comparative analysis revealed that chest X-ray had a higher sensitivity (100%) than symptom screening (55.5%), indicating its ability to identify all true positive TB cases.

Conversely, symptom screening demonstrated higher specificity (95.5%) compared to chest X-ray (88.9%), suggesting it was better at identifying true negative cases. McNemar's chi-square test, showed a significant difference in TB positivity rates between the two methods (Chi-square=40.024, $p<0.001$). This finding highlights the superior detection capability of chest X-ray, particularly for identifying subclinical TB cases.

Conclusions: The study highlights the contribution of chest X-ray to TB screening among PLHIV, by optimizing case detection and improving outcomes for PLHIV. The high sensitivity of chest X-ray in identifying potential TB patients, including those with no reported symptoms, underscores its value as a critical screening tool in high-risk populations. Implementing such a multi-faceted screening strategy can contribute to the global efforts in reducing TB morbidity and mortality among PLHIV.

EP0130

Optimizing linkage and followup to ensure CECAP care completion among women living with HIV at health facilities in Malawi

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Background: Cervical cancer incidence and mortality rates in Malawi are among the highest in the world. Malawi cervical cancer prevention (CECAP) guidelines recommend same day screening and treatment in order to identify and treat precancerous lesions. Completing CECAP care is critical to maximize prevention and minimize morbidity, and tracking women with incomplete screening and/or treatment is difficult. Since 2008, Baylor Foundation Malawi (BFM) has utilized community health workers (CHWs) to help clients navigate longitudinal HIV care cascades and now leverages this platform to establish a continuum of care for integrated CECAP service delivery.

We describe optimization of same-day treatment completion and followup among women living with HIV (WLHIV) in twelve health facilities supported by BFM.

Methods: WLHIV attending ART clinics were referred for CECAP screening with HPV triage and/or visual inspection with acetic acid (VIA) with same day thermocoagulation for eligible precancerous lesions.
To optimize screening and treatment completion:
(1) frequency of CECAP sensitization health talks was increased
(2) Psychosocial support was provided to WLHIV declining care or with abnormal results
(3) Locator details were collected from consenting women who needed followup
(4) files of women needing followup were flagged for ART clinic fast-track and linkage back to CECAP care
(5) CHWs conducted community tracing for women who missed followup
(6) close collaboration was maintained with referral facilities.
We analyzed program data from CECAP screening and treatment registers from January 2022-December 2024.
Results: Among 41,476 screening encounters, 1059 precancerous lesions were identified, a 2.6% positivity rate. Referral for gynaecologic concern or large lesion was made for 104 women.
Of the remaining 955 thermoeligible lesions, 933 were same-day treatment eligible (no menses, cervicitis, etc) with 98% (n=911) completing treatment.
Of 44 women needing followup, 50% (n=22) have been treated. Of 259 women with HPV+ results still needing VIA, 69.4% (n=180) had completed screening by December with only 79 remaining in followup cascade.
Conclusions: Integrated ART and CECAP services with education, followup and collaboration can achieve high completion rates of both screening and treatment at rural facilities in Malawi.
The existing Tingathe program for HIV care can be leveraged for other service delivery including CECAP.

EP0131

Anal cancer screening in men who have sex with men: the relevance of HPV genotyping in people living with HIV after 7 years of screening

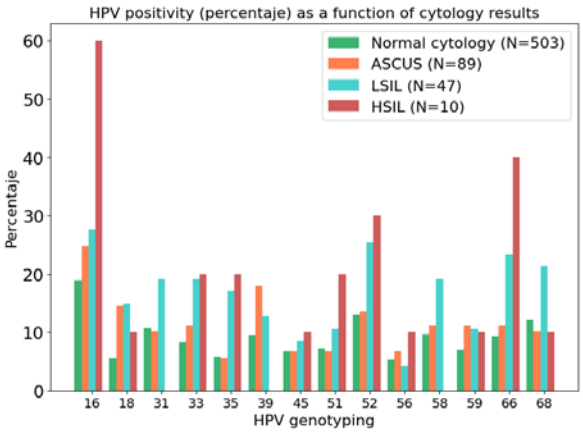
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Background: The ANCHOR trial demonstrates the benefit of treating high-grade squamous intraepithelial lesions in the anal mucosa to prevent progression to cancer.
The objective of this study is to evaluate the outcomes of anal cytologies and their relationship with subsequent biopsies, as well as their relationship with different HPV genotypes.
Methods: This is a prospective observational study of a subset of the eVIHa cohort (PLHIV in the Balearic Islands), specifically MSM undergoing HSIL anal screening since June 2017. HPV genotyping detects 14 oncogenic genotypes.
Results: 734 cytologies were performed on 380 MSM. Cytology results: 12% ASCUS, 6.6% LSIL and 14% HSIL. During the screening, 34% of participants had an abnormal cytology at some point.
Comparison of different variables between normal cytology vs LSIL/HSIL is shown in table 1. People with LSIL/HSIL had a higher percentage of nadir CD4<200cel/µL, were more likely to be smokers and had higher rates of previous neoplasia and condyloma.

	Normal Cytology (N=503)	LSIL/HSIL (N=57)	p-value
Age (years)	46 (SD: 11)	46 (SD: 13)	0.844
Years since HIV acquisition	15 (SD: 8)	17 (SD: 9)	0.06
Nadir CD4>200 cel/µL	74 (15%)	17 (30%)	0.006
Smoking	138 (27%)	23 (43%)	0.06
Previous Neoplasia	49 (9.8%)	13 (22.8%)	0.006
Previous condyloma	69 (13.7%)	21 (30%)	<0.001

Table 1. Comparison between normal vs LSIL/HSIL cytology

74 HRA with biopsies were performed, of which 35% were normal, 32% AIN1, and 31% AIN2/AIN3. One carcinoma was also detected. AIN3 cases were predominantly associated with HSIL cytologies.
All 14 HPV studied genotypes were more prevalent in abnormal cytologies, with genotypes 16, 52, and 66 most strongly associated with abnormal findings (Figure 1). Notably, 60% of HSIL cytologies were infected with HPV-16.



Conclusions: In our cohort of MSM-HIV, more than one-third of participants had abnormal anal cytology at some point. Overall, all HPV genotypes were more prevalent in samples with abnormal cytologies, particularly HPV-16, highlighting the importance of HPV genotyping in the screening of anal canal dysplasias.

EP0132

Association between self-reported HIV status at admission and duration of hospital stay among patients isolating with mpox at Mbarara Regional Hospital, Uganda

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Background: The Mpox case load in Uganda increased since the first case was reported in July 2024. Mpox was declared by the Africa CDC as a public health emergency of continental security in August 2024. People with underlying immunocompromising conditions like HIV are at risk of more severe disease. We evaluate the association between self-reported HIV status at admission and duration of hospital stay at Mbarara Regional Referral Hospital (MRRH), western Uganda
Methods: We conducted a chart review of hospital records of all clients with clinical Mpox admitted at the MRRH special pathogens unit for isolation. More severe or complicated cases stayed on the ward for a longer duration for treatment and support. Descriptive statistics and logistic regression were used to define the relationship between self-reported HIV status and average hospital stay.
Results: 69 cases of Mpox were admitted in the 3 months since October 16, 2024, to January 21, 2025. Majority (59.4%) were male and with a median age of 39 years (range, 19 – 50 yrs). 22, (31.9%) reported being of positive HIV serostatus at time of admission. Older clients (>32 years) had 1.64 odds of having a positive HIV serostatus. Almost all 64 (92.7%) admitted clients had skin and genital lesions. The median inpatient admission length of stay was 8 days (range, 1-30 days). After adjusting for age, sex and type of lesion, HIV was not associated with a longer stay (>8 days) in hospital (OR:1.0, IQR 0.36 – 2.7).
Conclusions: Despite admitting predominantly more older males, HIV co-infected patients with Mpox had a similar duration of stay on the ward for care and support. The risk of severe disease may be similar regardless of HIV serostatus but further studies are needed.

EP0133

High prevalence of Hepatitis B virus infection among people living with advanced HIV disease in Botswana

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Background: Hepatitis B virus (HBV) and human immunodeficiency virus (HIV) remain major global public health challenges. Concomitant HIV/HBV infection results in worse health outcomes with HBV reactivations being observed in profoundly immunocompromised individuals. However, data on concomitant HBV infection in people with advanced HIV disease (AHD) remains sparse.
We aimed to determine the HBV prevalence, risk factors of concomitant HIV/HBV infection and molecularly characterize HBV in a cohort of people living with HIV(PLWH) with CD4 T-cell counts ≤100 cells/μL in Botswana.
Methods: Plasma samples (n=1097) of PLWH with CD4 T-cell count ≤100cells/mm^3 collected between 2014 and 2016 were screened for hepatitis B surface antigen (HBsAg) and HBV core antibodies (anti-HBc). DNA was extracted from all samples that tested HBsAg+. A 415bp region of the HBV surface gene was amplified and sequenced using Sanger sequencing.
Genotypic and mutational analysis was performed using Geno2pheno. Adjusted risk ratios (aRR) were estimated from modified a Poisson regression model to explore risk factors for HBV infection. P-values less than 0.05 indicated statistical significance.
Results: The median age was 37 years (IQR: 32–43), and 565/1097 (51.5%) were female. The prevalence of HBsAg+ was 10.6% (95%CI :8.8% – 12.5%) and anti-HBc prevalence was 50% (95% CI: 46.9% – 52.9%). Risk factors identified were male sex [aRR: 1.6 (p<0.01)], and having a CD4 cell count of 50-100 compared to <50 cells/mm^3 [aRR: 1.45 (p=0.042)]. Eighteen samples were successfully genotyped. The prevalence of genotype A was (12/18 ,66.7%) and D (6/18,33.3%). Sixty-three mutations were identified associated with drug resistance, immune and diagnostic escape. Highly prevalent immune escape mutations in

the surface region were S207N (12/63, 19%) and A194V (9/63, 14.3%). V163I (12/63, 19%) and M129L (12/63, 19%) were highly prevalent in the reverse transcriptase region. Two classical lamivudine-associated drug resistance mutations were observed, each occurring in 1 participant (L180M and V173L). There is no association between mortality and HBsAg status.

Conclusions: The prevalence of HBV in people with AHD is high, highlighting the importance of HBV screening and HIV/HBV co-management in this population.

Co-morbidities and clinical complications of HIV and antiretroviral therapy

EP0134

Prevalence of undernutrition and associated factors among adult HIV patients receiving antiretroviral therapy: a cross-sectional study in Ruhango Provincial Hospital Catchment Area-Rwanda, January -December 2023

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Background: Undernutrition is a significant public health problem affecting various population groups in developing countries, particularly among people living with HIV(PLHIV). Despite its relevance, limited research has been conducted on undernutrition among PLHIV in Rwanda.

This study aimed to determine the prevalence of undernutrition and associated risk factors among adult HIV patients receiving antiretroviral therapy (ART) in Ruhango Provincial Hospital in Rwanda.

Methods: A cross-sectional study was conducted among PLHIV ≥ 18 years on ART across the Ruhango provincial hospital catchment area from January to December 2023. The sample size was calculated using Dobson formula, 385 study participants were selected through proportional quota sampling. Undernutrition was defined as a participant with a Body Mass Index of less than 18.5 kg/m^2. Data on socio-demographic and clinical characteristics were collected using a standardized questionnaire designed in Kobo Toolbox and analyzed using Stata 15.1; bivariate and multivariate logistic regression analyses with 95% confidence interval were performed to determine factors associated with undernutrition. Variables with p-value of <0.05 were considered statistically significant.

Results: Among the 385 participants, the prevalence of undernutrition was 11.2%. Undernutrition was statistically associated with having chronic diseases (aOR=9.39, 95% CI: 1.95-45.1) and being aged ≥ 50 years (aOR=3.32, 95% CI: 1.41-7.8). In contrast, two marital status sub-groups were found to be significantly associated with lower odds of undernutrition (married, aOR=0.41, 95% CI:0.22-0.78, and widowed, aOR=0.48, 95%CI: 0.23-0.99)

Conclusions: The study revealed that the prevalence of undernutrition among adults with HIV on ART was high. Factors associated with higher odds of undernutrition included the presence of chronic diseases and being aged ≥ 50 years while being married or widowed was associated with lower odds of undernutrition.

These findings highlight the need for comprehensive screening of chronic diseases other than hypertension and diabetes mentioned in routine screening, The establishment of nutritional support programs targeting older adult patients on ART, and enhanced training of healthcare providers in HIV care and nutrition management.

EP0135

Comprehensive metabolomics reveals low BMI, androgen, and dietary changes mediate reduced uric acid in people with HIV

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Background: Uric acid (UA), an important antioxidant, reduces oxidative stress from immune activation and chronic inflammation. However, differences in UA levels and metabolic mechanisms between people with HIV (PWH) and without HIV (PWoH) remain unclear.

Methods: We conducted an untargeted metabolomics study in 476 PWH and 476 matched PWoH (mean age: 59.9±8.4 vs. 59.6±8.6years; 72.3%male) from the Comparative HIV and Aging Research in Taizhou (CHART) cohort in eastern China. Suspected hyperuricemia (SHUA) was defined as fasting UA≥420μmol/L. Dysregulated metabolites were identified using logistic regression, OPLS-DA and LASSO regression.

Results: PWH had lower UA levels(310.8±96.8 vs. 357.9±99.6μmol/L, *P*<0.001) and lower prevalence of SHUA (12.0% vs. 25.0%, *P*<0.001) compared to PWoH (Fig.A). Multivariable regression indicated that HIV, female sex, non-alcohol consumption, low BMI, lymphocyte count, serum creatinine, and low intake of fish and fried food were associated with lower UA. The association strengths of BMI and alcohol consumption with UA were weaker in PWH than in PWoH (interaction *P*<0.05). Reductions of UA were partially mediated by lower BMI in PWH compared to PWoH (16.6%, *P*<0.001).

In PWH, 20 metabolites were associated with UA(18 positive, 2 negative, Fig.B&C). 1-methylhistidine, 2,6-dihydroxybenzoic acid, 5α-androstan-3β,17β-diol disulfate, histidine, N-acetyl-1-methylhistidine, orotidine were also associated with UA in PWoH. The androgen metabolite 5α-androstan-3β,17β-diol disulfate was positively associated

with UA, with a weaker association strength in PWH than in PWoH (interaction *P*=0.002, Fig.D), and mediated 76.7% of the UA reduction (*P*<0.001). 2,6-dihydroxybenzoic acid and picolinoylglycine (related to fiber and protein intake) also showed mediation effects (57.3% and 43.0%, *P*<0.001, Fig.E).

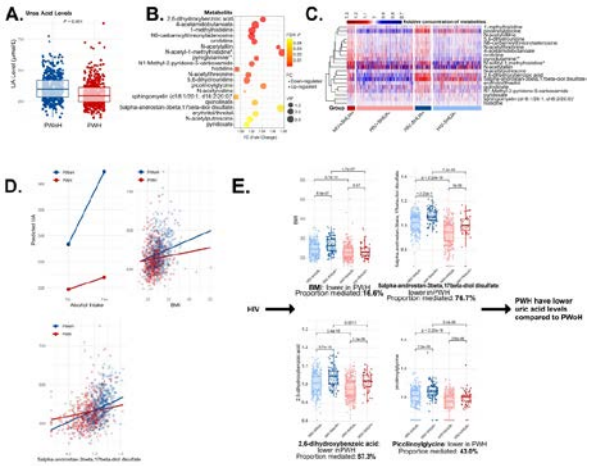


Fig. Uric acid levels and uric acid-associated metabolites in people with HIV
A. Boxplot of uric acid levels in PWH and PWoH
B. Bubble plot of uric acid-associated metabolites in PWH
C. Heatmap of relative metabolite levels between groups
D. The interaction between general characteristics, metabolites and HIV
E. Schematic map of mediation effects of general characteristics and metabolites on HIV and uric acid levels

Conclusions: Lower plasma UA levels in PWH compared to PWoH is mediated by lower BMI and dysregulated metabolites, suggesting that addressing nutritional and hormonal status is essential to counteract the reduced antioxidant capacity due to lower UA level in PWH, which plays a critical role in mitigating chronic inflammation in PWH.

EP0136

Enhancing HIV care through routine non-communicable disease screening: a continuous quality improvement project at Aduku HCIV, Northern Uganda

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Background: A data review conducted in January 2024 at Aduku HCIV revealed that only 27% of people living with HIV (PLHIV) were screened for Non-communicable diseases (NCDs), falling below the Uganda Ministry of Health's standard of 100%. This low screening rate was attributed to a knowledge gap among staff regarding HIV and NCDs management, inadequate documentation practices where results for screened clients were not recorded in their files and registers, and a lack of essential screening tools.

The objective for CQI was to increase the percentage of PLHIV screened for non-communicable diseases from 27% in January 2024 to 100% by December 2024.

Description: The project, initiated in January 2024, focused on improving NCD screening among PLHIV at Aduku HCIV. The interventions included integrating NCD management into the facility's Continuing Medical Education (CME) schedule for staff to enhance knowledge and skills in managing HIV and NCDs. Additionally, Blood pressure machines, glucometers, and other essential screening tools were provided to the ART clinic to enable staff to perform NCD screenings. An NCD focal person was selected to ensure improved documentation practices by accurately recording results for screened clients in patient files and registers and prompting treatment for NCD-positive clients.

Lessons learned: Integrating NCD management into facility CME sessions significantly improved staff knowledge and confidence in managing both HIV and NCDs. providing essential screening tools addressed a critical barrier to conducting NCD screenings. The appointment of an NCD focal person improved documentation, allowing accurate tracking of screened clients and enabling prompt treatment initiation.

The project demonstrated that continuous training, proper documentation practices, and resource availability are key to successful implementation and sustained improvements in service delivery.

Conclusions/Next steps: The project successfully increased NCD screening rates among PLHIV to 100%, emphasizing the importance of integrating NCD care into HIV services. The focus will be on sustaining these improvements through ongoing staff training and expanding the intervention to other health facilities.

The findings suggest that integrating NCD care into routine HIV care can enhance the overall quality of care for people living with HIV.

EP0137

Cardiac, liver, renal, and other safety profiles in PWH on ainuovirine-based antiretroviral regimen: week 96 results from SPRINT, a randomized phase 3 trial

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Background: In the SPRINT study, switch to ainuovirine plus lamivudine and tenofovir DF (ANV/3TC/TDF), resulted in an improving trend in liver and renal function in virologically suppressed (VS) people with HIV-1 (PWH). In the extensional study, PWH continued ANV/3TC/TDF or switched to ANV/3TC/TDF from cobicistat-boosted elvitegravir with emtricitabine and tenofovir alafenamide (E/C/F/TAF) until 96 weeks.

Methods: Out of 762 randomized participants, 376 participants originally assigned to ANV/3TC/TDF (376/381, 98.7%), and 371 participants originally to E/C/F/TAF (371/381, 97.4%) completed the extensional study, respectively.
Changes from baseline (CFBs) in QTcF interval on electrocardiography, and clinical laboratory examinations were primary safety outcomes of interest, including blood biochemistry.
Results: The two arms showed no significant changes in QTcF interval at week 72 or 96; only one participant continuing ANV/3TC/TDF had QTcF prolongation >60 msec at week 96. Liver enzymes remained unchanged in ANV/3TC/TDF arm but increased marginally in E/C/F/TAF→ANV/3TC/TDF arm, including ALT (Figure 1, upper panel), AST, GGT, ALP, and LDH.
Both total and direct bilirubin remained unchanged in both arms. Blood urea nitrogen became constant in both arms, and serum creatinine remained unchanged in ANV/3TC/TDF arm but decreased slightly in E/C/F/TAF→ANV/3TC/TDF arm at week 96 (1.0±7.7 vs. -2.7±8.1 µmol/L) (Figure 1, lower panel).
This accompanied a marginal change in estimated glomerular filtration rate at week 96 (-1.1±7.4vs. 2.5±8.3mL/min/1.73m^2). Serum phosphates remained constant; creatine kinase decreased slightly (-80.4±768.1 vs. -58.3±1232.3 U/L); and amylase remained constant (-0.05±16.5 vs. -0.17±17.0 U/L). Common organ-associated AEs (≥5% in either arm) included elevated AST (5.8% vs. 6.9%), and elevated GGT (4.5% vs. 6.4%).

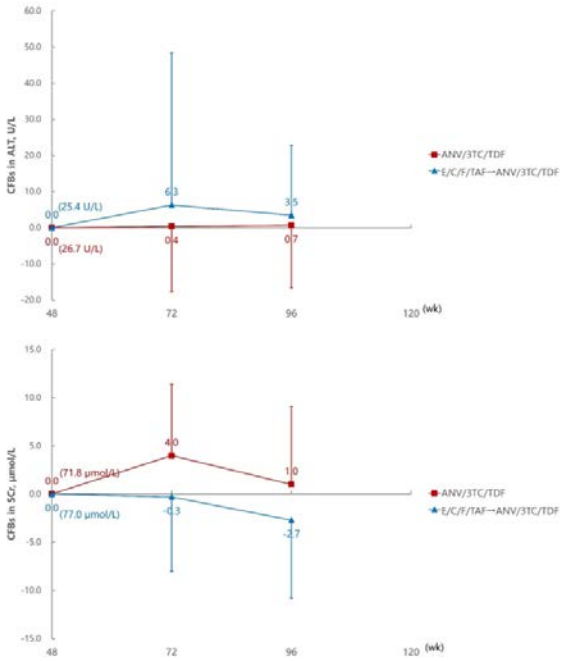


Figure 1. Changes in ALT and SCR at week 72 and 96
ANV/3TC/TDF, ainuovirine/lamivudine/ tenofovir disoproxil fumarate; E/C/F/TAF, elvitegravir/cobicistat/emtricitabine/tenofovir alafenamide; CFB, change from baseline; ALT, Alanine aminotransferase; Scr, Serum creatinine.

Conclusions: Switch to ANV/3TC/TDF is well tolerated in VS PWHs, without clinically significant changes in organ-associated biochemical measures observed. Routine safety laboratory monitoring is generally recommended in PWHs on switching therapy.

EP0138

Prevalence of diastolic dysfunction and associated factors in virologically suppressed PLWH in Salvador, Brazil

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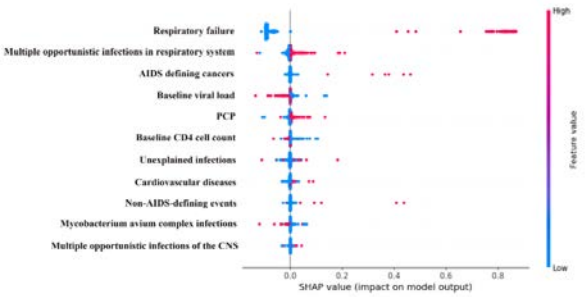
Background: The echocardiographic abnormalities found among PLWH changed since the start of the HIV pandemic. Currently, abnormalities are more associated with pulmonary hypertension, coronary artery disease and left ventricular diastolic dysfunction.
This study aimed to evaluate echocardiographic abnormalities, mainly diastolic dysfunction, and associated risk factors, including inflammatory and immunological factors among PLWH who are virally suppressed.
Methods: We conducted a cross-sectional study, including individuals with undetectable HIV-RNA plasma viral load. The participants were interviewed, and their medical records information was collected. Presence of echocardiographic abnormalities was defined by transthoracic echocardiography and inflammation and immune activation was evaluated by a cytokine panel and flow cytometry. Bivariate analysis and a logistic regression were performed.
Results: 99 individuals living with HIV were included, 57.6% of the participants were male, with an average age of 52.6 years. The racial composition was predominantly mixed (49.5%) or black (39.4%), and the majority was single (56.6%) with more than 8 years of formal education (71.7%). The median current CD4 cell count was 702.0 cells/µL (IQR: 483 - 845 cells/µL), and the median nadir CD4 cell count was 204.5 cells/µL (IQR: 53 - 324.75 cells/µL). 52.6% had a previous history of an AIDS-defining condition. 37.4% had at least one previously diagnosed comorbidity, central obesity was the most prevalent (28%), closely followed by hypertension (25.3%).
The prevalence of echocardiographic abnormalities was 71.7%, diastolic dysfunction occurred in 40.4% of participants. In the logistic regression, participants with diastolic dysfuction were older (OR 1.11, 95% CI 1.03 - 1.20), mostly with less than eight years of education (OR 4.08, 95% CI 1.06 - 15.78), and were more likely to have comorbidities (OR 8.29, 95% CI 2.34 - 29.35) as hypertension (OR 17.90, 95% CI 3.83 - 83.72). Markers of inflammation and immune activation levels were comparable across groups.
Conclusions: Our findings strengthen the hypothesis that PLWH even on stable ART and with virological suppression present higher prevalence of echocardiographic abnormalities, mainly diastolic dysfunction. They also reinforce classic risk factors, like age and comorbidities, involved in the development of cardiac remodeling.

EP0139

Machine learning algorithms to predict the risk of admission to intensive care units in people living with HIV

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Background: The aim of this study was to forecast the risk factors of admission to the Intensive Care Units (ICUs) for people living with HIV(PLWH) using several different machine learning prediction models, to evaluate the risk of admission to the ICU for PLWH, and to assist doctors in making early clinical interventions and preventing healthcare client from developing serious illnesses.
Methods: Classification models were built based on logistic regression (LOG), random forest (RF), k-nearest neighbor (KNN), support vector machine (SVM), artificial neural network (ANN), and extreme gradient boosting (XGB).
The risk of admission to intensive care units (ICUs) was predicted using Brier score,the area under receiver operating characteristic curve (ROC-AUC) and the area under the precision recall curve (PR-AUC), and evaluated by visualization using ROC, PRC of all models for internal validation and ranked by Shapley plot.
Results: In classification models, ANN model performed best in the internal validation (Brier score = 0.034, ROC-AUC = 0.961, PR-AUC = 0.895) to predict the risk of admission to the ICU for PLWH.
Our study also identified eleven important features to predict the risk of ICU admission based on Shapley plot, including respiratory failure, multiple opportunistic infections in the respiratory system, AIDS defining cancers, baseline viral load, PCP, baseline CD4 cell count, unexplained infections, cardiovascular diseases, non-AIDS-defining events, mycobacterium avium complex infections, and multiple opportunistic infections of the CNS.



Conclusions: An intelligent healthcare prediction system could be developed based on the medical records of PLWH, and the ANN model had performed best in effectively predicting the risk of ICU admission, which helped physicians make timely clinical interventions, reduce the likelihood of PLWH developing serious illnesses, alleviate people living with HIV suffering and reduce the expenditure of healthcare resources.

EP0140

Undiagnosed hypertension among people with HIV in Upper Eastern Kenya: perils of vertical silo-programs

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Background: Hypertension is the most important risk factor for cardiovascular diseases. Despite the documented high prevalence in Kenya (20-28%) hypertension is under-diagnosed among people with HIV. We sought to measure the prevalence of undiagnosed hypertension among people on antiretroviral treatment.
Methods: We carried out a before and after study in three County referral hospital clinics. Baseline data on blood pressure and management of hypertension for clients 19 years and above was compared with measures after re-training healthcare workers. Line-listed de-identified data were extracted from electronic medical records (KenyaEMR) and analysed using Stata version 18.5.
We conducted on-site training of healthcare workers on current management of elevated blood pressure and hypertension using the 2024 ESC guidelines. Nurses and clinical officers measured blood pressure in the subsequent clinic visits. We compared proportions of clients classified as hypertensive before and after the intervention using appropriate statistical measures.
Results: At baseline 7,283 records 4,962 (68.1%) females were analysed, with a mean age of 47.2 years (SD 12.5). The median body mass index was 23.9 (IQR 20.8,27.7). Women had a significantly higher average BMI compared to men; 25.7 (SD 5.2) vs 22.4 (SD 4.0) P<0.001. Only 327 (4.5%) of clients had a documented history of hypertension with only 26.2% controlled.
Only 5,207 (71.5%) had a BP recorded during their last visit with 1,363 with BP ≥140/90 mmHg. After the re-training, 4,288 (58.9%) of the clients had a clinic revisit in three months of whom 3,627 (84.6%) had a BP measurement.
All the 755 re-evaluated clients with baseline elevated blood pressure had a confirmatory BP measurement and 432 (57.2%) were diagnosed with hypertension.
After the intervention, there was a significant rise in the proportion of people correctly classified as having hypertension from 4.5%, to 21.8% p<0.001. The proportion with controlled BP below 140/90 mmHg threshold also rose from 16.2% before to slightly over one third; 56(34.2%) of hypertensive clients on treatment.
Conclusions: Hypertension remains dangerously under-diagnosed in HIV clinics with a triple-edged gap; suboptimal measurement of BP, incorrect classification and suboptimal management. These gaps are reversible through deliberate service integration and structured re-education of healthcare workers.

EP0141

Normalization of inflammatory bio-markers post dolutegravir initiation among a cohort of persons living with HIV in Accra, Ghana: a prospective study

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Background: Persons living with HIV (PLHIV) are at increased risk of cardiovascular diseases (CVDs) partly attributed to persisting inflammation and oxidative stress which predispose PLHIV to atherosclerosis and CVDs.
We evaluated the effect of Dolutegravir on plasma levels of alanine transaminase (ALT) and C-reactive protein (CRP), which are independent systemic inflammatory biomarkers, in PLHIV initiated on DTG-based regimen in Accra, Ghana.
Methods: A prospective multi-center observational cohort study was conducted in Ghana from September 2020 and August 2022 among adult PLHIV aged at least 18 years initiated on DTG. Each participant was followed up for 18 months.
We compared the ALT and CRP levels at baseline and 18 months among only those with data for both timelines. Normal ALT and CRP levels were defined as £33 IU/L and <5 mg/L respectively. Comparison of baseline and month-18 median ALT and CRP levels were done using the Wilcoxon signed-rank test at 5% significance level.
Results: A total of 3662 PLHIV were screened of which 73% were female. For ALT, 18% (424/2346) had abnormal ALT at baseline with 63% (266/424) reverting to normal levels by month 18. Median ALT for PLHIV with abnormal ALT at baseline, declined from 43.00 (IQR:37.00-54.50) IU/L at baseline to 29.00 (IQR:21.00-39.00) IU/L by month 18. For PLHIV with normal ALT at baseline, 91% (1741/1922) still had normal levels by month 18. Their median normal ALT at baseline was 20.00 (IQR: 16.00-25.00) IU/L and remained same by month 18.
For CRP, 24% (551/2318) had abnormal CRP at baseline with 62% (343/551) reverting to normal levels by month 18. For PLHIV with abnormal CRP at baseline, their median CRP declined from 9.32 (IQR:6.63-16.26) mg/L at baseline to 3.44 (IQR:1.38-7.16) mg/L by month 18. For PLHIV with normal CRP at baseline, 87% (1531/1767) still remained normal by month 18 with median CRP declining from 1.30 (IQR:0.62, 2.54) mg/L at baseline to 1.17 (IQR:0.51, 2.87) mg/L by month 18.
Conclusions: There was significant decline in ALT and CRP levels to normal levels in PLHIV initiated on DTG implying a reduction in inflammation and possible oxidative stress

EP0142

Declining HDL-cholesterol among persons living with HIV post DTG initiation in Ghana: a risk for coronary artery disease

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Background: Low HDL-cholesterol (HDL-C) is an independent risk factor for coronary artery disease (CAD) and a strong predictor of atherosclerosis. With the increasing burden of chronic, non-communicable diseases among Persons living with HIV (PLHIV) due to increase in life expectancy, it is important to monitor such population to identify any modifiable risk factors for early intervention to reduce the burden.
This study assessed the trends in HDL-C among adult PLHIV initiated on DTG in Ghana.
Methods: A prospective multi-center observational cohort study was conducted among PLHIV initiated on DTG in Ghana from September 2020 and August 2022. Inclusion criteria was adults aged 18 years and above, absence of dyslipidemia and normal HDL-C levels at time of DTG initiation. Each participant was followed up for 18 months.
We compared the HDL-C levels that were measured after a 12-hour fast at baseline and 18 months among those with Normal baseline HDL-C level. Abnormal HDL was defined as HDL-C levels <1.68 mmol/l.
Results: A total of 3662 participants were screened at baseline for HDL-C levels. 31% (1125/3662) of participants had normal HDL-C with 845 of them having both baseline and month-18 HDL measurements.
Majority were females (73%), aged 24 – 49years (53.9%), and ART experienced (94.1%). The median HDL-C level decreased from 2.50 (1.9 - 3.4) mmol/l at baseline to 1.4 (1.2 – 1.6) mmol/l at month 18 (p<0.001). The incidence of abnormal HDL was 77.5% (95%CI: 74.6 – 80.2).
Being overweight (IRR=1.12 (95% CI: 1.02 – 1.24)), obese (IRR: 1.19, 95% CI: 1.08 – 1.31), ART naïve (IRR: 1.20, 95%CI: 1.10 – 1.32) and not having a co-morbidity (IRR: 1.10, 95% CI: 1.01 – 1.20) were associated with higher risk of low HDL-C by month 18.
Conclusions: HDL-C levels in PLHIV on DTG based regimen for 18 months decreased significantly. Increasing BMI and being ART naïve predisposed these PLHIV to having low HDL.

EP0143

Depressive symptoms among adolescents and young adults living with HIV on antiretroviral therapy: outcomes from a cross-sectional study in Accra, Ghana

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Background: Systematic screening for depression among adolescents and young adults living with HIV (AYALHIV) is limited or non-existing in some settings in sub-Saharan Africa due to lack of integration of mental health care into HIV programmes. This can increase the risk of suicidal thoughts and cause emotional distress which can have an adverse effect on their treatment outcomes. Establishing evidence of the burden of depression among AYALHIV is key for advocacy for systematic screening.

This study examined the burden of depressive symptoms and associated factors among AYALHIV in Ghana.

Methods: A single center facility-based cross-sectional study was conducted among AYALHIV at the Infectious Disease Center of the Korle Bu Teaching Hospital, Accra, Ghana from May 2023 to March 2024. Depressive symptoms were assessed through the administration of Patient Health Questionnaire for Adolescents (PHQ-A). Prevalence of depressive symptoms (PHQ-A score ≥5) and associated factors were examined using logistic regression at a level of significance of 0.05.

Results: A total of 280 AYALHIV were recruited with 50.7% being female. Sixty percent were young adults, and the rest were adolescents. About 75% were virally suppressed. The prevalence of depressive symptoms was 40.7% (95% CI 34.9% - 46.7%).

Being an orphan (adjusted odds ratio [aOR]=2.59, 95% Confidence Interval [95%CI] 1.21-5.56), female (aOR=1.81, 95% CI 1.08-3.04) and having high perceived HIV stigma (aOR= 2.17, 95% CI: 1.28-3.67) were associated with having depressive symptoms. Viral non-suppression was associated with both high perceived HIV stigma and depressive symptoms.

Conclusions: Depressive symptom burden was high among AYALHIV despite viral suppression in majority of them.

There is need for mental health screening integration into youth-centered HIV programmes based on context for early identification, counselling and treatment of mental health challenges to ensure good quality of life and avert other mental health challenges.

EP0144

Prioritization of people living with HIV (PLHIV) for mental health screening: Early learnings from implementation of integrated HIV/ Mental health care in rural Zimbabwe between October 2023-September 2024

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Background: Mental health care in Zimbabwe has traditionally been centralized within specialty services available in urban areas, creating unmet needs among people living with HIV (PLHIV) and those residing in rural settings.

The Ministry of Health & Child Care prioritized building capacity of primary care health workers to identify and treat mental illnesses including depression, anxiety, and substance use through the Mental Health Gap Action Program (MhGAP), a WHO initiative to facilitate mental health services delivery through non mental health specialists.

Description: Between October 2023 and September 2024, seven public-sector facilities in Hurungwe District integrated screening and treatment for mental illnesses among PLHIV ≥ 10 years self-presenting for clinical consultations.

Eighteen nurses were trained on the MhGAP curriculum to facilitate management of common mental illnesses, and 30 community health workers (CHWs) were trained in peer-to-peer cognitive behavioural intervention, Problem-Solving Therapy (PST), and use of translated screening tools for depression and anxiety including [Shona Symptom Questionnaire (SSQ14), Mental Health Questionnaire (PHQ9), and Generalized Anxiety Disorder (GAD7)].

Screening at facility level mainly included screening using PHQ9 and GAD 7, with SSQ14 sometimes administered. Clients scoring above standard thresholds for moderate symptoms received PST and further assessments through nurses . Some clients with lower scores self-reporting problems also received PST sessions through CHWs.

Lessons learned: Within the 1st year of implementation 41% (4,640/11,311) of facility cohorts were screened for mental health disorders. Based on SSQ14 results, 25% (110/446) had a need for PST and were assisted by CHWs.

Among these, 25% (28/110) were referred to trained nurses for further management, including 19 clients with warning signs such as suicidal thoughts and hallucinations.

According to the GAD 7 assessment, 7% (297/4,194) had moderate -severe anxiety, while the PHQ9 identified 4% (169/4,193) experiencing moderate - severe depression. From these 31 severe cases of anxiety and depression were further referred to a secondary level of care.

Conclusions/Next steps: This mental health screening initiative demonstrated that integration of mental health screening and treatment into HIV care is feasible with appropriate training, task-shifting, and referral planning; without which mental health challenges could go undiagnosed and untreated.

EP0145

Stigma-directed intervention to improve linkage to HIV care for people living with HIV in Rural Tanzania: a pre-post implementation study

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Background: HIV-related stigma remains a significant barrier to achieving timely linkage to care, retention, and optimal treatment outcomes in resource-limited settings. This study assessed the impact of a bundle of stigma-directed services at the time of HIV diagnosis on linkage to HIV care and viral suppression in rural Tanzania.

Methods: We conducted a pre-post analysis of newly implemented stigma-directed services within the Kilombero and Ulanga Antiretroviral Cohort (KIULARCO) at St. Francis Referral Hospital, Ifakara, Tanzania.

The pre-implementation phase (07/2017-01/2019) provided standard of care, while the post-implementation phase (02/2020-08/2021) introduced stigma-directed services for newly diagnosed people living with HIV (PLWH): post-test counseling, educational videos, group support therapy, and mobile health interventions, delivered by trained peer counselors.

Outcomes included linkage to care (ART initiation within two months), retention, viral suppression, self-reported stigma and depression scores, and mortality within one year. Data were analyzed using logistic and linear regression adjusted for baseline characteristics.

Results: A total of 1,334 participants, 848 (64%) female, median age 38 years (IQR 30-46) were enrolled (810 pre-implementation and 524 post-implementation). Linkage to care did not improve statistically in the post-implementation group (71%) compared to the pre-intervention group (69%) (Table).

Retention in care, viral suppression and mortality rates were comparable between the two groups. Self-reported stigma and depression scores declined over time, with greater improvements noted among participants who received all components of the stigma-directed intervention.

Outcomes	Pre-Implementation (n (%))	Post-Implementation (n (%))	Univariable (95% CI)	Multivariable (95% CI)	Adjusted p-value
Linkage to care	560 (69%)	370 (71%)	0.96 (0.76, 1.20)	1.05 (0.76, 1.45)	0.76
Retention in care (6–12 months)	491 (61%)	312 (60%)	0.96 (0.76, 1.20)	1.05 (0.76, 1.45)	0.78
Viral load suppression (6–12 months)	446 (92%)	280 (93%)	1.11 (0.63, 1.93)	1.53 (0.92, 2.31)	0.10
Mortality (6–12 months)	32 (4%)	27 (5%)	1.32 (0.78, 2.23)	1.33 (0.64, 2.77)	0.44
Self-reported stigma (Mean, SD)	26.35 (8.91)	19.24 (10.62)	-7.11 (-9.35, -4.86)	-6.61 (-9.75, -3.56)	<0.001
Self-reported depression symptoms	9 (8%)	8 (5%)	0.51 (0.26, 1.28)	0.43 (0.15, 1.17)	0.12

Table: Association Between Stigma-directed services and outcomes among newly diagnosed PLHIV (n=1334)

Conclusions: Stigma-directed services did not improve linkage to care among newly diagnosed PLWH. Further research is needed to understand the poor linkage during the first year of care.

EP0146

Week 96 Results from Dolutegravir/lamivudine versus bictegravir/ emtricitabine/tenofovir alafenamide fumarate: Real-world Assessment of weight Gain in people with HIV of Asian OrigiN (DRAGON)

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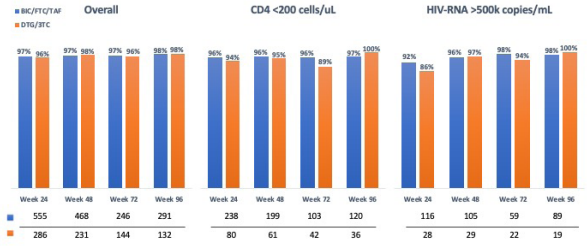
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Background: Several studies have demonstrated low CD4 counts, high HIV RNA levels, female sex, and Black race have been associated with a higher likelihood of weight gain in some people with HIV (PWH) after initiating antiretroviral therapy. The DRAGON study aimed to compare weight gain among Asian ART-naïve patients initiated on DTG/3TC or BIC/FTC/TAF.

Methods: This was a retrospective, multi-center, observational cohort study conducted at ten hospitals from March 2019 to January 2024 in Taiwan and mainland

China-mainland. The primary endpoint was the risk factors of participants who experienced a ≥10% increase in weight. Secondary endpoint included achieving HIV RNA levels <200 copies/mL after initiating DTG/3TC or BIC/FTC/TAF (per-protocol analysis).

Results: A total of 1,053 patients were included, with 372 in the DTG/3TC group and 681 in the BIC/FTC/TAF group. Figure 1 showed that the effectiveness was not significantly different between DTG/3TC and BIC/FTC/TAF.



The mean weight change at week 48 was 2.9 kg in the DTG/3TC group and 4.2 kg in the BIC/FTC/TAF group (difference:1.3 kg; p=0.01), and it was 3.5 kg and 5.1 kg (difference:1.6 kg; p=0.05) at week 96.

Additionally, 143 (24.3%) and 134 (33.7%) patients exhibited ≥10% weight gain at weeks 48 and 96. A logistic regression model was conducted to identify the risk factors, including CD4 <200 cells/μL and BMI <24 kg/m². (Table 1)

	Adjusted odds ratio (Week 48)	95% CI	p	Adjusted odds ratio (Week 96)	95% CI	p
BIC/FTC/TAF vs DTG/3TC	1.44	0.84 - 2.47	0.19	1.76	0.90 - 3.43	0.10
Age <40 vs ≥40 years	0.87	0.55 - 1.38	0.55	0.95	0.56- 1.63	0.86
Male vs female	1.81	0.69 - 4.75	0.23	0.95	0.48 - 0.90	0.93
Men who have sex with men	1.11	0.50 - 2.45	0.80	0.32	0.09 - 1.16	0.08
Injection drug user	0.97	0.53 - 1.75	0.91	1.001	0.54 - 1.85	0.99
Heterosexual	1.04	0.24 - 4.62	0.96	0.98	0.20 - 4.82	0.98
CD4 <200 vs ≥200 cells/uL	2.32	1.52 - 3.54	<0.01	2.19	1.36 - 3.53	<0.01
HIV RNA ≥100K vs <100k copies/mL	1.27	0.83 - 1.94	0.28	1.16	0.72 - 1.86	0.54
BMI <24 vs ≥24 kg/m²	2.58	1.54 - 4.32	<0.01	2.32	1.31 - 4.10	<0.01

Conclusions: Our study showed that DTG/3TC was comparable to BIC/FTC/TAF in achieving virologic suppression. Furthermore, low CD4 counts and BMI were associated with a higher likelihood of weight gain among treatment-naïve PWH in Asia.

EP0147

Impact of dual therapy on weight gain and metabolic outcomes in naïve people living with HIV (PLHIV) with CD4 counts <200 cells/mm3: findings from the DOLCE study

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Background: Weight changes can impact health outcomes. While weight loss has been associated with advanced HIV disease, individuals with low CD4 counts may experience weight gain, potentially associated with antiretroviral therapy (ART) initiation.

We report the effects of dolutegravir-based dual and triple therapy on weight, glucose, and lipid profiles after 48 weeks of treatment in PLHIV with low CD4 counts.

Methods: The DOLCE study reported comparable rates of virologic suppression between dual therapy (DT) and triple therapy (TT) in PLHIV with CD4 counts <200 cells/mL.[1] Key outcomes included weight, BMI, glucose, and lipid profiles.

Metabolic changes were analyzed with a mixed-effect linear regression model, controlling for baseline values, sex, and race.

Results: Out of 230 subjects, 153 were in the DT arm and 77 in TT. 75.7% were male, 24.3% female; 42.6% Hispanic/Latino, 38.7% White, and 15.2% Black. Median baseline weight was 64 kg for DT and 63 kg for TT, with 48-week weights of 74 kg (DT) and 71 kg (TT).

Weight increase was 14% (DT) vs 11% (TT) (p=0.017). Median baseline BMI was 22.6 for DT and 22.7 for TT, significantly increasing by W48 in both arms: DT 25.8, TT 25.5.

Metabolic changes were also observed. The median increase in total cholesterol, LDL-C, and HDL-C was less in TT: 22% vs 5% (cholesterol, p<0.001) and 22% vs 4% (LDL-C, p<0.001).

Triglycerides increased more in the TT group (17% vs 0%). Despite the increase, the values remained within the upper normal limit Blood glucose remained unchanged in both arms during the 48 weeks (Table 1).

Table 1. BSL and Week 48 Metabolic Outcomes. Median percentage change from baseline

	DT (n=152)			TT (n=77)		
Median (IQR)	BSL Median*	W48 Median*	Median % change**	BSL Median*	W48 Median*	Median % change**
Weight	64 (57-62)	74 (66-82)	+14 (9;27)	63 (58-73)	71 (65-85)	+11 (4;20)
Total cholesterol	137 (119-169)	172 (149-196)	+22 (4;41)	142 (123-170)	155 (134-170)	+5 (-8;20)
HDL	37 (29-45)	48 (39-57)	+29 (10;52)	36 (29-46)	42 (36-52)	+14 (0;47)
LDL	77 (59-97)	98 (78-115)	+22 (1;52)	82 (63-97)	86 (75-102)	+4 (-14;27)
Triglycerides	116 (82-152)	105 (73-144)	0 (-25;27)	101 (83-158)	87 (63-111)	-17 (-42;10)
Glucose	85 (80-92)	87 (81-95)	+1 (-6;11)	85 (80-90)	88 (83-95)	+5 (-5;14)

* Unit weight kg; unit cholesterol, HDL, LDL, triglycerides, glucose mg/dl

** Median percentage increase between baseline and week 48. Percentage change was calculated at each specific time point for each subject as (concentration [week 48] - concentration [baseline]) / (concentration [baseline]) x 100.

Conclusions: Both DT and TT resulted in significant weight gain and lipid changes in HIV-positive individuals with low CD4 counts, with no effect on glucose levels. The weight gain likely reflects a return to health due to ART initiation in this severely immunosuppressed population.

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EP0148

Predictors of liver fibrosis in people living with HIV-HBV co-infection on antiretroviral therapy: a long-term observational cohort study

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Background: Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) share transmission routes, and co-infection increases the risk of liver fibrosis compared to HBV alone. Liver fibrosis is a potential predictor for severe liver disease. However, the risk factors in HIV-HBV co-infected individuals remain poorly understood.

This study aimed to evaluate the incidence of liver fibrosis and identify the determinants associated with its progression in this population.

Methods: An observational cohort study was conducted among adults with HIV and HBV co-infection receiving ART from 2005 to 2022 in the Southwest of China. Participants without fibrosis before ART therapy underwent blood tests every 3 months, including liver function, white blood cell counts, blood glucose, platelet counts, and hemoglobin. HIV clinical index, including CD4+ T cell counts and HIV viral load, were conducted every six months. Liver fibrosis was defined using the Aspartate Aminotransferase to Platelet Ratio Index (APRI) and Fibrosis-4 Index (FIB-4). Cox proportional hazard models were employed to identify factors associated with liver fibrosis.

Results: 810 participants (49.51% male, median age 41 years) were followed for 1,786.94 person-years, with a median follow-up period of 2.21 person-years. During the follow-up, 30.7% of participants met the primary endpoint of liver fibrosis.

Multivariable Cox regression models indicated that the incidence of liver fibrosis was associated with an increased risk of older age (35-49 years, aHR = 1.76, 95% CI, 1.28-2.43; ≥50 years, aHR = 2.00, 95% CI, 1.33-3.00), male sex (aHR = 1.67, 95% CI, 1.21-2.31), higher baseline FIB-4 score (≥1.45, aHR = 1.59, 95% CI, 1.11-2.29), ALT levels at baseline ≥40 U/L (aHR = 1.44, 95% CI, 1.05-1.97), Hepatitis C Virus (HCV) positivity (aHR = 1.88, 95% CI, 1.34-2.64), and lower CD4+ T cell counts at baseline (0-199 cells/μL, aHR = 1.46, 95% CI, 1.05-2.04) compared to those without liver fibrosis.

Conclusions: This study revealed a high prevalence of fibrosis among individuals with HIV-HBV co-infection after ART. Fibrosis progression was associated with older age, male sex, higher initial FIB-4 scores and initial ALT, HCV co-infection, and lower initial CD4+ T cell counts, emphasizing the need for early monitoring and comprehensive management of hepatitis co-infections.

EP0149

Improving cervical cancer screening among women on antiretroviral therapy in community-based decentralized service delivery model in southern nigeria using a multi-strategy approach

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Background: Differentiated Service Delivery (DSD) models are designed for healthcare services to meet the diverse needs of people living with HIV (PLHIV). However, these models, if out-of-facility, can significantly impact access to facility-based services like cervical cancer screening.

This study describes a multi-strategy approach to integrating cervical cancer screening into community-based DSD models to increase access for women living with HIV (WLHIV).

Methods: This study was conducted using routinely collected program data of WLHIV. In the study area, screening was done using visual inspection with acetic acid (VIA).

Four Strategies were employed to improve Cervical Cancer screening among WLHIV:

1. Task shifting to increase the pool of healthcare workers with skills to conduct the screening, thus reducing missed opportunities due to healthcare workers' unavailability. These providers were trained in screening and identification of precancerous lesions.
2. Identifying health facilities not receiving program support, training the healthcare workers on counselling and screening, and linking them in a hub-and-spoke mechanism to a supported facility. Here, eligible women who missed cervical cancer screening during their clinic appointment were referred to these spoke centers for screening.
3. Referrals to the health facility during annual reassessment visits.

4. Clustering eligible women based on their locations for cervical cancer screening, leveraging clinicians in the mobile community teams to conduct the screening.
This multi-strategy approach was implemented between October 2023 -November 2024 across 31 Local Government Areas in Akwa Ibom State, Nigeria. The outcomes were assessed by extracting cervical cancer screening data from the electronic medical records and analysed using Statistical Package for the Social Sciences (SPSS).
Results: 6417 out of 9457 women of reproductive age eligible for cervical cancer screening received ART in community DSD between October 2023 and November 2024. The median age was 37 [IQR: 32-42] years. In November, 5653(88%) of unscreened WLHIV received CXCA screening, increasing screening access for WLHIV in Community DSD from 32% (3040/9457) at baseline to 54%(5093/9457) at 6months, 85%(8039/9467) at 12months and 92% at end line (8693/9457).
Conclusions: This study provides evidence that integrating cervical cancer screening into community DSD is feasible and can increase screening rates among WLHIV.

EP0150

Impact of different blood pressure control definitions on blood pressure control prevalence among individuals receiving integrated HIV-hypertension care in Lilongwe, Malawi

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Background: The prevalence of blood pressure (BP) control among individuals from sub-Sahara Africa with HIV and hypertension has varied, but is generally low. We explored the impact of different definitions of BP control on its prevalence.
Methods: The Partners in Hope Moyo Centre of Excellence for HIV Care and Treatment, is a PEPFAR-supported HIV clinic in Lilongwe, Malawi. It has a one-stop-shop model for integrated HIV-hypertension management with free-of-charge medication (antihypertensives and antiretroviral therapy) and aligned multi-month dispensing.
We compared 2 commonly used BP control definitions:
A. based on the last BP measurement in a quarter (October-December 2023), and;
B. based on the last 2 or 3 BP measurements over the previous year (January-December 2023), of which at least 2 meet the control threshold (systolic <140 mmHg and diastolic <90 mmHg).
From the clinic database, we identified individuals with hypertension and randomly selected equal numbers with and without BP control according to definition A). On this population, we applied definition B) to estimate the impact on the prevalence of BP control.
Results: 220 individuals on ART and with hypertension were included, 64% female, median age 54 years (IQR 47–62), median duration ART 13 years (IQR 9.7–15.3), 31% obese (BMI≥30kg/m^2), 81% on >1 antihypertensive drug, 11% with diabetes mellitus. Using definition A), 50% (110/220) of clients were controlled. Using definition B), 47% (104/220) were controlled.
Of 110 individuals with controlled BP according to definition A), 83 (76%) also had controlled BP according to definition B). Of 110 with uncontrolled BP according to definition A), 89 (81%) also had uncontrolled BP according to definition B). 48 (22%) individuals changed from controlled to uncontrolled BP or vice versa using a different BP control definition.
Conclusions: There were moderate differences between the two definitions of BP control with limited impact on BP control prevalence. These definitions should be further explored in larger studies in diverse settings. Reports of blood pressure control can vary widely and standardizing the definitions would help comparing data within and across programs with high prevalence of HIV and hypertension co-morbidity.

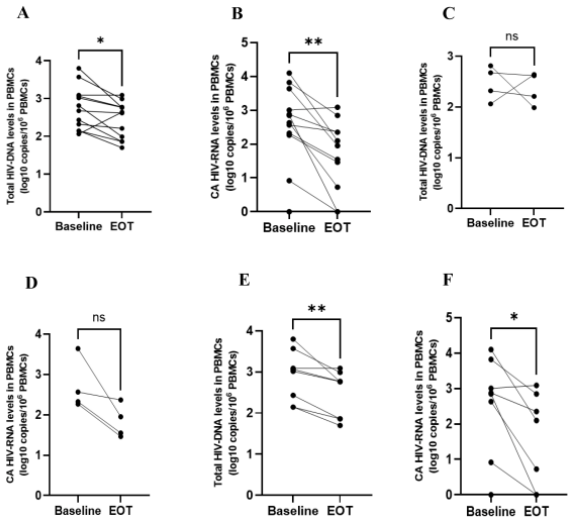
EP0151

Viral tropism and quasispecies dynamics in AIDS-related non-Hodgkin's lymphoma under immunochemotherapy

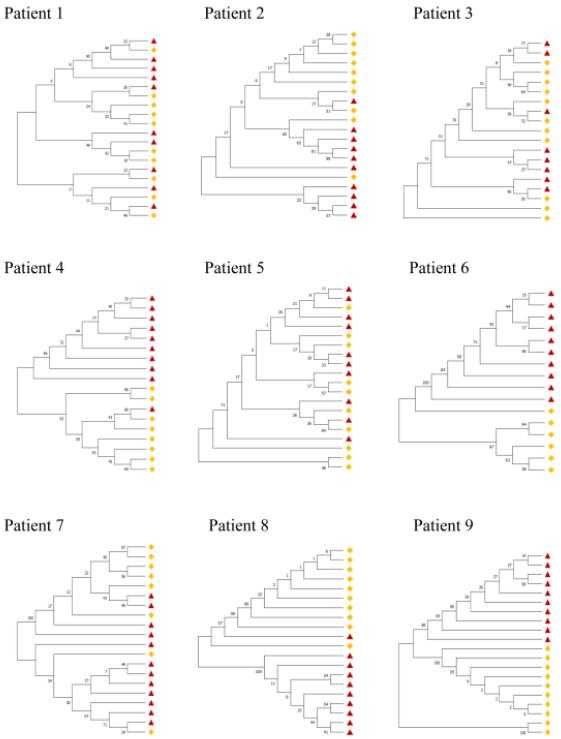
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Background: Combination antiretroviral therapy (ART) effectively suppresses HIV replication and significantly prolongs survival in people with HIV (PWH). However, the virus persists in latent reservoirs, making complete eradication elusive. This article aims to explore the effects of ART combined with immunochemotherapy on HIV.
Methods: Baseline blood samples from 39 PWH with newly diagnosed non-Hodgkin's lymphoma (NHL) were analysed for HIV-1 tropism. For PWH who provided complete blood samples before and after immunochemotherapy, additional analyses were performed, including assessing HIV reservoir changes, quasispecies diversity and complexity, phylogenetic relationships, and evolutionary dynamics.
Results: Among the 39 PWH with newly diagnosed NHL, 25.64% exhibited X4 tropism as determined by V3 region sequence analysis. Twelve PWH provided paired blood samples for further analyses. ART combined with immunochemotherapy led to a significant reduction in intracellular HIV DNA and cell-associated HIV RNA levels post-treatment (p = 0.022 and 0.0019, respectively). Phy-

logenetic tree analysis of the *env* nucleotide sequences from nine of 12 PWH, for whom amplification was successful, revealed intersections or distinct clusters corresponding to treatment time points. Quasispecies distributions shifted, with some quasispecies disappearing post-treatment and novel quasispecies emerging that were absent at baseline.



Conclusions: In PWH with NHL, immunochemotherapy combined with ART effectively reduced viral reservoirs. However, dynamic changes in viral genetic variation and quasispecies following treatment highlight the need for further research to optimize individualized treatment strategies.



EP0152

Knowledge and attitudes about solid organ transplant for people with HIV among Australian healthcare providers and consumers

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Background: Demand for solid organ transplantation (SOT) in people with HIV (PWH) is increasing. However, PWH experience disparate access to SOT, with multiple barriers reported. There is no legislative barrier to SOT for PWH in Australia.

This study aimed to explore knowledge about and barriers to organ receipt and donation for PWH among Australian healthcare providers (HCP) and consumers.

Methods: We conducted two surveys:

1) HCPs involved in HIV and SOT-related care, and;

2) consumers with chronic comorbidities and/or HIV.

Surveys were developed with HIV community organisations and hosted in Qualtrics. Survey responses were multiple choice or five-point Likert scale and shared via clinics, mailing lists, community and professional networks in Australia.

Results: 132 HCP and 175 consumers responded. 51% of HCP were HIV-specialists, and 49% were organ-specialists. 110/128 (86%) HCP thought PWH could be organ recipients, but 36/118 (30%) thought PWH could donate. 61/107 (57%) HCP indicated that comorbidities were the greatest barrier to SOT receipt, while 53/107 (49%) reported HIV and 34/107 (31%) felt legislation was the main barrier to donation.

Consumers included 122 PWH, and 53 controls. Fewer PWH than controls believed they would be eligible to receive an organ to prolong their life (51% vs 87%, p<0.001), that they were eligible to donate (40% vs 68%, p=0.002) or were registered as donors (22% vs 44%, p=0.01).

PWH were more willing to be deceased donors (96% vs 82%, p=0.002), but not living donors (71 vs 76%, p=0.53) than controls. PWH reported HIV superinfection (n=45, 40%) as the main concern about organ receipt from a donor with HIV.

Controls were most concerned about HIV infection (n=18, 40%) and safety (n=16, 35%). Age <55 [OR 0.48, (95% CI 0.23- 0.99)] and HIV care outside a hospital [OR 0.47 (95% CI 0.23-0.98)] predicted lower known eligibility to receive organs in PWH.

Conclusions: Most providers were aware that PWH could receive organ transplants, few were cognisant of the eligibility to donate. Consumers' awareness of the ability of PWH to both receive and donate organs is limited. Opportunities exist to improve knowledge and overcome misconceptions about SOT for PWH in Australia.

EP0153

A client-centered approach for the integration of hypertension screening in HIV services: a comparison between newly initiated and those already on antiretroviral therapy

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Background: People living with HIV (PLHIV) have an increased risk of developing non-communicable diseases (NCDs), including hypertension. We explored trends and outcomes in integrated screening for hypertension in antiretroviral therapy (ART) clinics across five regions supported by USAID Afya Yangu (My Health) Northern project in Tanzania.

This abstract outlines the experience of screening PLHIV for early hypertension detection, focusing on comparing clients identified with hypertension at ART initiation with those who developed it during long-term ART use.

Description: Healthcare providers at ART clinics were trained on screening PLHIV for NCDs using standard treatment guidelines, to ensure regular hypertension screening for PLHIV attending ART clinics.

Essential supplies, including blood pressure machines and weighing scales, were procured to facilitate this process. Non-identifiable client-level data were extracted from the national electronic HIV database. Providers at facilities completed client records on hypertension screening.

PLHIV who had at least one record of blood pressure measurement between October 2023 and September 2024 were included. We did a descriptive analysis of hypertension screening and results, disaggregated by sex, age, and HIV treatment status (new or already on ART).

Lessons learned: Overall, 82,997 PLHIV on ART were screened for hypertension. Out of those, 92% (76,318) were already on ART by 30 September 2023, and 8% (6,679) were newly initiated during the review period.

Among all participants, 59,248 (71%) were female. Among PLHIV already on ART, 4.2% (3,170/76,318) had high blood pressure, compared to 2.2% (144/6,679) for those newly initiated on ART.

The prevalence of hypertension among females on ART above the age of 50 years was 8.6%, compared to 7.0% in males of the same age group. The table below shows outcomes by age and sex.

Sex	Age group	No. of New ART clients	No of New clients with HTN	Proportion of new clients with HTN	No. of Current ART clients	No. of current clients with HTN	Porportion of current clients with HTN
Male	<25	251	1	0.4%	2,308	17	0.7%
	25-50	1,310	26	2.0%	10,759	246	2.3%
	50+	504	18	3.6%	8,617	604	7.0%
Female	<25	1,268	8	0.6%	7,866	49	0.6%
	25-50	2,519	45	1.8%	30,754	876	2.8%
	50+	827	46	5.6%	16,014	1,378	8.6%
Total		**6,679**	**144**	**2.2%**	**76,318**	**3,170**	**4.2%**

Conclusions/Next steps: PLHIV already on ART had higher prevalence of hypertension than those newly initiated on ART, with those aged fifty years and above having higher rates.

EP0154

Managing TB/HIV co-morbidities among children and adolescents co-infected with TB & HIV through targeted structural interventions in Northern Nigeria: a pathway to improved health outcomes

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Background: Tuberculosis (TB) is the leading cause of death among people living with HIV (PLHIV) with the risk of developing active TB 20 times higher compared to those without HIV. TB remains a significant public health challenge in Nigeria. Children and adolescents under 15 years represents 11% of global TB cases. Structural interventions aim to reduce HIV transmission and morbidities by changing social norms, policies, and other social barriers to treatment. We reviewed TB cascade monitoring and treatment outcomes for children and adolescents living with HIV and enrolled in care in 54 Health facilities providing HIV/TB comprehensive services in both states for the past 3 years.

Description: SFH implemented targeted interventions to optimize care for children and adolescents with TB/HIV co-morbidities. These included establishing virologic clinics for specialized care, enhanced case management, same-day CD4+ testing with results, CrAg screening, and laboratory investigations, enrolling orphans and vulnerable children into programs promoting health, safety, and education, Operation Triple Zero (OTZ) clubs to ensure zero missed appointments, avoid treatment interruption and ensure suppressed viral loads, scaling up early infant diagnosis (EID) and integrated testing using GeneXpert machines and PIMA point-of-care technology.

Program data from the Electronic medical records was reviewed for outcome of TB screening, diagnosis and treatment.

Lessons learned: 1,031 children and adolescents were screened for TB from December 2021 to October 2024. 13 (6 Males, 7 Females) children were diagnosed and treated successfully using standard medications. GeneXpert was leveraged to diagnose 85% of cases with the clients provided close monitoring to ensure all treated clients achieved viral load suppression.
Also, all the clients were successfully treated for TB with zero deaths and no signs of TB recurrence post-treatment. Among those treated, 23% were on ABC-3TC-DTG, while 77% were on TDF-3TC-DTG and all 13 children and adolescent attained 100% VL suppression.
Conclusions/Next steps: Improved monitoring and surveillance for TB among HIV/TB co-infected clients through active targeted screening can ensure early diagnosis and management of TB among children and adolescents. This is in addition with improved case management and targeted differentiated care towards optimizing treatment outcomes.

EP0155

Exploration of common molecular mechanisms and hub genes in diffuse large B cell lymphoma shared with AIDS using bioinformatics and machine learning strategies

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Background: The study aimed to explore the common molecular mechanisms, hub genes and screen small molecular drugs of hub genes in DLBCL shared with HIV/AIDS.
Methods: DEGs were screened separately in HIV and DLBCL datasets with "limma" R package, which was intersected with Venn analysis to identify the common DEGs. GO and KEGG signaling pathway analysis were further performed, PPI network was constructed and node genes were identified. ML algorithms were used to screen potential hub genes, which were evaluated with ROC curve and IHC staining.
Hub genes-associated signaling pathways were enriched, while immune cell infiltration and relationship with hub genes was derived based on CIBERSORT package. Potential small molecular drugs were screened and molecular docking was conducted with hub genes.
Results: MCM3 was identified as hub gene based on ML algorithms, which was demonstrated high expression in samples of DLBCL in HIV/AIDS patients with IHC staining.
GSVA analysis indicated that high expression of MCM3 protein was enriched in IL-2 STAT5 signaling pathway, angiogenesis, EMT, Kras signaling, Notch signaling and Wnt-β Catenin signaling pathway, while infiltration of activated CD8+ T cells, CD4+T cells and NK cells increased more significantly in DLBCL and HIV infection,separately, and presented positive relationship with MCM3.
Potential small molecular drugs were screened and identified that Belinostat has good molecular docking stability and may be the most potential compound.
Conclusions: MCM3 genes played a key role in tumorigenesis, and Belinostat was identified as a valuable small molecule drugs for precise treatment in DLBCL shared with HIV/AIDS.

EP0156

Exploring the relationship between dolutegravir and diabetes using programmatic data in a cohort of ART clients in Lubombo and Manzini

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Background: Studies have documented the pathways and predictors of type 2 diabetes (T2DM) among people living with HIV (PLHIV). Recent studies reported that health providers perceive dolutegravir (DTG), an antiretroviral therapy drug of choice in Eswatini since October 2018, as a driver of T2DM among PLHIV. This is due that in many ART clients who developed T2DM after switching to DTG, were diagnosed within 12 months of transitioning to DTG. Some studies have noted that PLHIV are transitioned to DTG-based regimen without T2DM screening, making it difficult to adequately establish a causal relationship between DTG and T2DM, yet other studies have reported a rather protective relationship between DTG and T2DM.
This study aimed used programmatic data to document the association between DTG and T2DM among PLHIV on ART in Eswatini using programmatic data.
Methods: We conducted a retrospective cohort analysis on clients active on ART by 31 December 2022 in Manzini and Lubombo using programmatic data.
Descriptive statistics were used to compare diabetes prevalence between clients on DTG-based regimen and those not on DTG-based regimen. Predictive statistics were used to determine if DTG is a predictor of T2DM, and its covariates.
Results: A total of 67,417 participants were included in the analysis, and 1.1% (n=785) of clients were diabetic. Of the 785 clients, 4.2% (n=33) developed T2DM before ART initiation, and 95.8% (n=752) developed after ART initiation, of which 22.3% (n=168) were never exposed to DTG, and 77.7% (n=584) developed T2DM after exposure to DTG. The highest prevalence was on clients who were never on DTG (2.0%, n=33) or transitioned from DTG (2.0%, n=77).
Clients initiated and remained on DTG had the least rate (0.4%, n=48). Predictors of T2DM were age (AOR:1.1(95%-CI:1.0-1.1), p<0.001), body mass index (BMI) (AOR:1.1(95%-CI:1.05-1.09), p<0.001), and duration on ART (AOR: 1.2 (1.1-1.3), p<0.001). DTG was protective from T2DM (AOR:0.5(95%-CI:0.4-0.6), p<0.001).
Conclusions: Most diabetes cases developed after ART initiation, with a lower prevalence among those consistently on DTG. Key factors associated with T2DM development included age, BMI, and duration on ART.

EP0157

Can dolutegravir-associated weight gain be reversed? Experiences from Harare, Zimbabwe

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Background: Many people living with HIV transitioned from efavirenz-based (ART_{EFV}) to dolutegravir-based antiretroviral therapy (ART_{DTG}), but some experience excess weight gain, raising the risk of non-communicable diseases. We investigated whether discontinuing dolutegravir (DTG) reverses this weight gain.
Methods: We used data from Newlands Clinic in Zimbabwe, including longitudinal weight measurements from adults (≥18 years) who switched from ART_{EFV} to ART_{DTG} excluding those underweight.
We compared proportional weight change while on ART_{DTG} between those who later discontinued DTG and those who remained on it. For those who stopped DTG, we used Bayesian linear mixed models to estimate monthly weight change trends from 1.5 years before to 3 years after discontinuation.
Separate models were fitted for pre- and post-discontinuation periods, including sex, time, and their interaction as fixed effects, with participant as a random intercept.

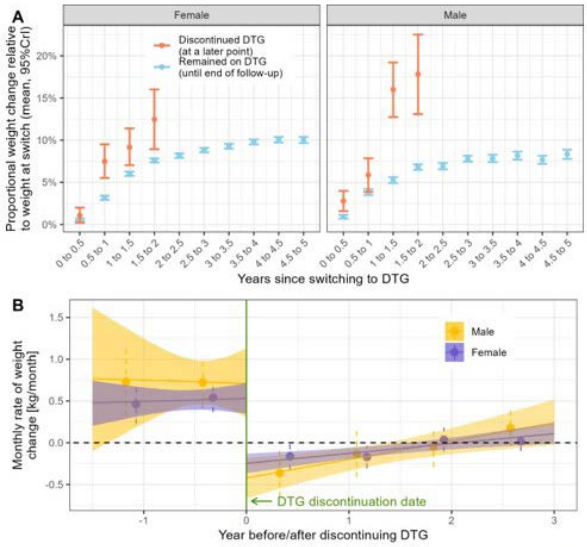


Figure 1. A) Proportional weight gain (relative to weight at switch) while on DTG in all adults who have switched to DTG at Newlands Clinic. Points show 6-monthly means, while error bars show 95% credible intervals. B) Estimated monthly rates of weight change before and after discontinuing DTG. Lines correspond to posterior medians; shaded areas to 95% credible intervals. Regression models were fitted to individual-level data, the dots in B) represent 9-monthly averages to illustrate model fit.

Results: We analysed 52,870 weight measurements from 2,969 adults (72% female, n=2,141), including 1,713 measurements from 108 individuals who discontinued DTG. After switching to ART_{DTG}, those who later stopped DTG had greater weight gains compared to those who remained on it.
For example, at 6-12 months post-switch, mean gains were 5.9% vs. 3.9% in males and 7.5% vs. 3.2% in females *(Figure 1A)*. In those who remained on DTG, weight stabilised 3-4 years post-switch.
Among those who discontinued DTG , estimated monthly weight gain rates were constant before stopping (0.75 kg/month in males, 0.5 kg/month in females; *Figure 1B)*.
Immediately post-discontinuation, estimated weight loss rates were 0.42 kg/month in males and 0.25 kg/month in females, progressively diminishing without evidence of weight change after two years.
Conclusions: Stopping DTG in people with excess weight gain resulted in weight loss. Weight reductions were partial, indicating incomplete weight-gain reversal. Regular weight monitoring and counselling around weight reduction strategies remains important for individuals on ART_{DTG}.

EP0158

Effect of Dolutegravir compared to Darunavir/Cobicistat, both with TDF/FTC, in neuropsychiatric effects at 12 weeks of treatment in PLH with baseline neuropsychiatric disorders and no antiretroviral therapy experience

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Background: Integrase strand transfer inhibitors (INSTI) are associated with neuropsychiatric adverse events (NPS). The aim was to assess the change in NPS in people living with HIV (PLWH) who had baseline NPS symptoms without prior experience of antiretroviral therapy (ART) and who started a regimen with Dolutegravir (DTG) compared to Darunavir/Cobicistat (DRV/c), both with Tenofovir Disoproxil Fumarate/Emtricitabine (TDF/FTC).
Methods: A randomized open-label clinical trial conducted at the Hospital de Infectología, Centro Médico Nacional "La Raza" from June 2023 to December 2024 (ClinicalTrials.gov Identifier: NCT06787976), to evaluate changes in NPS scales for depression, anxiety, insomnia, and sleep quality in PLWH initiating ART with either a DTG or DRV/c regimen, both combined with TDF/FTC. All patients were assessed by psychiatry before starting ART.
Discontinuation was considered if patients experienced exacerbation of NPS scales associated with adverse events of grade ≥2. Scores were compared at weeks 4 and 12.
Results: A total of 54 male patients were included, with 27 (50%) receiving DRV/c and 27 (50%) receiving DTG. The median age was 26 years (IQR 23-30), baseline CD4+ count was 248 (IQR 162-365), and baseline HIV-1 RNA was 4.4 log^{10} (IQR 3.9-4.9) (Table 1).
Prior to ART initiation, 10 patients (17.8%) reported suicidal thoughts. In the DTG group, 7 individuals (28%) discontinued ART due to the new onset of suicidality and exacerbation of NPS symptoms. Scores were compared at baseline and at 12 weeks, showing significant reductions in both

groups. A significant difference was found in the HADS-A and PHQ-9 scales, with a lower score in DRV/c group. No difference was found in the other scales (Table 2).

Table 1. Baseline characteristics of the studied population.

Characteristic	DTG + TDF/FTC N=27	DRV + TDF/FTC N=27	p
Age, median,(IQR) years	26 (21-39)	28 (23-36)	0.937
CD4+, median (IQR) cells/mm3	346 (162-480)	299 (154-326)	0.739
VIH-1 Viral load, median (IQR), log_{10}	4.4 (3.9-4.9)	4.4 (3.7-4.7)	0.848
ART discontinuation, n (%)	7 (28%)	2 (7%)	0.135
Basal PHQ-9, median (IQR), score	16 (10-19)	14 (9-20)	0.224
Basal ISI, median, (IQR), score	12 (8-16)	10 (9-17)	0.067
Basal HADS-A, median (IQR), score	11 (9-12)	12 (9-13)	0.105
Basal HADS-D, median (IQR), score	8 (5-10)	10 (8-11)	0.079
Basal PSQI, median (IQR), score	10 (8-13)	9 (6-10)	0.297

Table 2. Comparison of scores at 12 weeks

Parameter	DTG + TDF/FTC N=13	DRV + TDF/FTC N=13	p
PHQ-9 12 weeks, median (IQR), score	9 (5-13)	7 (3-14)	**0.038**
ISI 12 weeks, median, (IQR), puntos	8 (4-12)	6 (2-14)	0.406
HADS-A 12 weeks, median (IQR), score	9 (5-12)	7 (4-11)	**0.005**
HADS-D 12 weeks, median (IQR), score	8 (2-9)	6 (2-10)	0.388
PSQI 12 weeks, median (IQR), score	8 (4-11)	6 (3-9)	0.946

Conclusions: Preliminary data from this study, with 12 weeks of follow-up, suggests difference in HADS-A and PHQ-9 scores between the two groups. Patients in the DTG + TDF/FTC group reported a higher risk of suicidality.

EP0159

CD4-driven advanced HIV disease diagnosis, cryptococcosis, and TB-LAM testing in Kenya

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Background: Despite significant progress toward achieving the UNAIDS 95-95-95 goals, in 2022 Kenya was estimated to have the eighth-highest number of AIDS-related deaths globally. Advanced HIV disease (AHD), defined as CD4 count of <200 cells/mm³ or WHO stage 3 or 4 conditions, remains a significant contributor to HIV-related morbidity and mortality in Kenya.

This study examines the burden of AHD across Kenya and assesses key gaps in CD4, CrAg, and TB-LAM testing

Methods: We analyzed de-identified records from Kenya's National Data Warehouse (NDW) for individuals aged >5 from October 1, 2022, to September 30, 2023, focusing on three high-risk groups for advanced HIV disease (AHD): those newly initiating ART (TX_NEW), those returning to treatment after ≥3 months of interruption (RTT-IIT), and those with virologic failure (VL ≥1,000 copies/ml for two consecutive tests within six months after adherence support).

We collected demographic data and dates of HIV diagnosis, ART initiation, re-engagement, and viral load, as well as CD4, cryptococcal antigen (CrAg), and TB-LAM testing to assess AHD care. These data were then overlaid on 2024 UNAIDS subnational PLHIV estimates to describe county-level burden.

Results: As of September 30, 2023, Kenya had 1,227,223 active clients on ART reported to the NDW. From the NDW, we identified 150,009 AHD high-risk clients derived from TX_NEW, 76,477 (51.0%), RTT-IIT, 69,650 (46.4%) and virologic failure, 3,882 (2.6%) categories. Two thirds, 99,575 (66.4%) were female. Ages 25-49 constituted 100,711 (67.1%) of clients, 50+ years were 27,067 (18.0%), 15-24 year olds were 17,481 (11.7%), and 05-14 year olds were 4,750(3.2%). CD4 tests were conducted on 38,790 (25.9%) clients, with 13,093 (33.8%) having a count <200 cells/mm³. A follow-on CrAg test was conducted among 5,076(38.8%) of clients with 358 (7.1%) positivity. TB-LAM was done among 472 (3.6%) with 144 (30.5%) positive tests (Table 1).

County AHD prevalence ranged from 1.4-13.8% with Nairobi AHD burden and prevalence at 2,864 and 8.22% respectively.

Conclusions: Kenya faces a significant burden of advanced HIV disease. Improving coverage of CD4 testing that serves as a gateway to AHD care and targeted interventions to address gaps along the care cascade are required. Additionally, expanded access is needed for AHD commodities and screening including CD4 testing, CrAg, and TB-LAM.

EP0160

Time to event analysis for CD4 and CrAg testing among AHD high-risk clients in Kenya

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Background: Kenya faces a disproportionate burden of advanced HIV disease (AHD). Delays in CD4 and CrAg testing, crucial for diagnosis and care, correlate with higher HIV-related morbidity and mortality.

This study assesses time from AHD high-risk categorization to CD4 testing and from CD4-driven AHD diagnosis to cryptococcosis screening via CrAg test.

Methods: We analyzed de-identified records from Kenya's National Data Warehouse of AHD high-risk clients aged >5 years from Oct 1, 2022, to Sept 30, 2023. High-risk criteria included: newly initiating ART (TX_NEW); returning to treatment ≥ 3 months after interruption (RTT-IIT); and confirmed viremia of ≥1,000 copies/ml for two consecutive tests within six months. Data included demographic characteristics, dates and results for HIV diagnosis, ART initiation and re-engagement, viral load, and CD4 and CrAg data. Time to CD4 testing was defined as the pe-

riod from HIV diagnosis, re-engagement, or second viral load testing to CD4 testing date. Time to CrAg testing was defined as the period from CD4 <200 cells/mm³ to CrAg testing date. Kaplan-Meier curves estimated times to CD4 and CrAg testing by AHD high-risk categories. Log-rank test assessed differences between categories.

Results: Among 150,009 AHD high-risk clients, CD4 testing was conducted on 38,790 (25.9%) clients: 1,012 (2.6%) ages 5-14, 4,920 (12.7%) ages 15-24, 26,893 (69.3%) ages 25-49, and 5,965 (15.4%) ages ≥ 50 years. CD4 tests among females were 26,380 (64.6%). TX_NEW clients received CD4 testing earlier than other categories. Median time to CD4 testing was not assessed as no categories reached 50% testing rate. Log-rank test detected differences in CD4 testing by risk category ($p < 0.0001$). Among 13,093 clients eligible for CrAg testing, 5,076 (38.7%) received a test. Median time to CrAg testing for virologic failure clients was 240 days. TX_NEW and RTT-ITT categories did not reach the 50% testing threshold. Differences in CrAg testing by AHD-risk categories was significant (log-rank $p = 0.0044$).

Conclusions: The analysis reveals significant disparities in time to CD4 and CrAg testing across risk categories. Targeted interventions, especially for RTT and virologic failure clients, and increased access to early testing at facilities are essential to improve AHD detection and outcomes.

EP0161

Comparative analysis of estimated glomerular filtration rate in people living with HIV on ART in AFRICOS study

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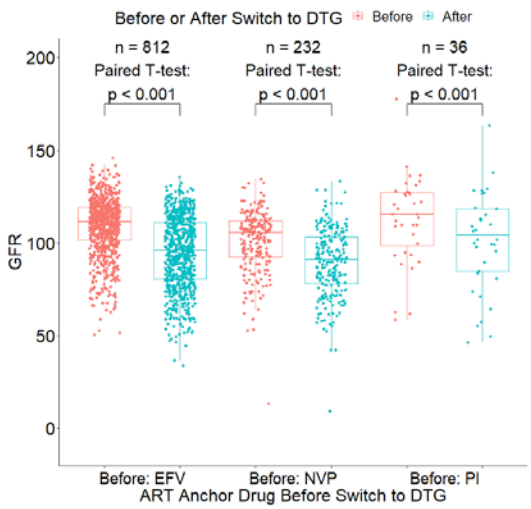
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Background: Renal dysfunction is a significant issue in people living with HIV (PLWH). A sustained estimated glomerular filtration rate (eGFR) reduction (<60 ml/min/1.73 m²) indicates chronic kidney disease. This study aims to assess the association between ART regimen and eGFR among PLWH.

Methods: AFRICOS is an observational cohort study which has been enrolling people living with and without HIV in Kenya, Nigeria, Tanzania, and Uganda since 2013. Creatinine levels were assessed at six-monthly visits until 2020 and then assessed annually. This analysis included PLWH with at least two visits on ART regimens which included anchor drugs DTG, efavirenz (EFV), nevirapine (NVP), or a protease inhibitor (PI). Participants were excluded if they had prevalent persistently reduced eGFR, defined as eGFR <60 at their first two visits. Paired t-tests compared eGFR before and after switching to DTG. The association between ART regimen and incident persistently reduced eGFR (<60 at two consecutive visits) was also evaluated using Cox proportional hazards models.

Results: As of 1 March 2024, 3,275 PLWH on ART were enrolled; 2,630 met inclusion criteria for this analysis. Of these, 99 (3.8%) had incident persistently reduced eGFR. Among the 1,080 participants who switched to DTG during follow-up and had a visit 90-270 days after the switch, eGFR decreased significantly for all prior ART regimens (Figure). However, ART regimen was not associated with incidence of persistently reduced eGFR, possibly due to more subtle changes in eGFR following the switch to DTG.

Figure. eGFR before and after switch to DTG stratified by anchor drug before switch, with paired t-test comparing eGFR before and after switch.



Conclusions: While ART regimen was not significantly linked to persistently reduced eGFR, switching to DTG was associated with a decrease in eGFR, regardless of prior ART regimen. This could highlight changes in kidney function that may not be detected with a focus only on binary normal vs reduced eGFR. Further research is needed to understand the long-term renal effects of DTG.

EP0162

Integrating lay health worker-supported blood pressure screening into routine HIV care identifies people with hypertension and links them to care at health facilities in Malawi

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Background: People living with HIV (PLHIV) are at risk of poor outcomes from cardiovascular disease. Integration of blood pressure (BP) screening into routine HIV care facilitates early detection of hypertension and linkage to treatment.

Since 2022, Malawi HIV ART guidelines have recommended integrated BP screening for PLHIV 30+ years. Baylor Foundation Malawi (BFM) has utilized community health workers (CHWs) since 2008 to help clients navigate longitudinal HIV care cascades in Malawi.

We describe integration and scale-up of BP screening and referral into this continuum of HIV care.

Methods: Baylor Foundation Malawi supports delivery of HIV prevention, care and treatment services in 96 health facilities. Lay health workers (CHWs) were trained to deliver hypertension health education, to identify those eligible for BP measurement; to measure BP using automated cuffs; and to refer people with elevated BP (>140/90) or taking anti-hypertensive medication for clinical evaluation at ART. Automated BP cuffs were provided for use during ART clinic triage.

Cluster-based CHW trainings included video demonstrations of BP measurement followed by practicals, modeled health talks on BP lifestyle modification, and use of a tally for tracking and reporting. Trained CHWs integrated screening into ART triage and tracked eligibility, BP results, and referrals. Routine program data was analyzed.

Results: BP screening integration began in February 2024 with 11% (n=10) sites reporting week 1, 49% (n=47) week 2, and 91% (n=86) by week 5 with 96% sites (range: 88-100%) consistently reporting from July.

From February - 30 Nov 2024,106,837 blood pressures were measured, with 6.6% (n=7072) high BP (>140/90). Reported completed counseling sessions for people with high BP increased consistently from July 2024 (Figure 1).

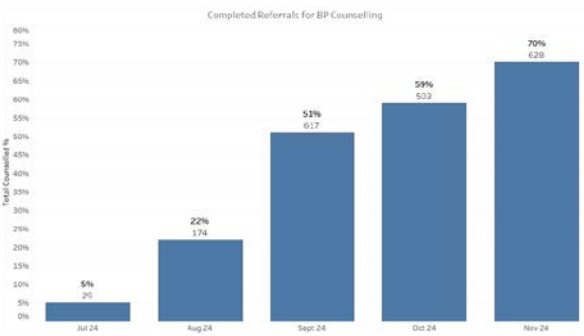


Table 1.

Conclusions: Leveraging a CHW-supported longitudinal care cascade for PLHIV to integrate BP screening in routine ART care is feasible and facilitates identification and linkage to care. Quantification of medical treatment linkage is underway.

EP0163

Prevalence of dyslipidemia and associated factors among people living with HIV in Rwanda

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Background: HIV infection and antiretroviral therapy are linked with metabolic disorders, which increase the risk of cardiovascular diseases among people living with HIV (PLHIV). This study aimed to determine the prevalence of dyslipidemia and its associated factors among PLHIV in Rwanda.

Methods: A cross-sectional study was conducted among PLHIV aged 18 years and above, recruited from 12 health facilities offering HIV and non-communicable disease (NCD) services. Participants had been on antiretroviral therapy for at least 12 months. Data were collected using the WHO STEPwise approach to NCD risk factor surveillance (STEPS). Descriptive statistics and chi-square tests were used for categorical variables, and binary logistic regression was employed to identify factors associated with dyslipidemia.

Results: The study included 785 participants, with 63.6% being female and a median age of 44 years. The overall prevalence of dyslipidemia was 60.2%. Specific lipid abnormalities included total cholesterol (TC) ≥ 200 mg/dl (13.3%), high-density lipoprotein (HDL) cholesterol < 40 mg/dl in men and < 50 mg/dl in women (46.7%), low-density lipoprotein (LDL) ≥ 130 mg/dl (9.7%), and triglycerides (TG) ≥ 150 mg/dl (16.6%).

Significant associations were found between dyslipidemia and age, gender, body mass index (BMI), smoking, and alcohol consumption. Older age groups (45-54 years: OR=2.10, 95% CI=1.46-3.03; above 55 years: OR=1.71, 95% CI=1.17-2.50) and higher BMI (obese: OR=2.40, 95% CI=1.54-3.74; overweight: OR=1.85, 95% CI=1.36-2.51) were strongly associated with dyslipidemia. Women were more likely to be diagnosed with dyslipidemia compared to men (OR=0.43, 95% CI=0.34-0.54). Smoking was not found to be agravating the risk of dyslipidemia in this study (OR=0.57, 95% CI=0.44-0.76).

Conclusions: The study highlights a high prevalence of dyslipidemia among PLHIV in Rwanda, particularly among women, older adults, and those with higher BMI. These findings underscore the need for integrating metabolic monitoring and interventions into the care of PLHIV to mitigate the risk of cardiovascular diseases.

EP0164

Evaluating body mass index as a predictor of hypertension among people living with HIV: evidence from a Tanzanian cohort to enhance public health and policy interventions

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Background: Hypertension and obesity are emerging public health challenges, particularly among PLWHIV in low- and middle-income countries. Hypertension affects 15–46% of PLWHIV. In sub-Saharan Africa, where HIV prevalence is highest, 20–45% of PLWHIV are hypertensive, and obesity rates are rising. In Tanzania, 27% of adults are hypertensive, and 29% are obese, with PLWHIV disproportionately affected.
This study explores BMI as a predictor of hypertension among recipients of care at Temeke Regional Referral Hospital, aiming to inform targeted public health and policy interventions to address the dual burden of HIV and NCDs.
Methods: A retrospective data collection was conducted using clinical records at Temeke Regional Referral Hospital Care and Treatment Clinic from year 2023 March to 2023 September. Data on BMI, blood pressure, age, marital status, ART regimen, duration on regimen, were extracted from patient records.
Hypertension was defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg or a documented diagnosis. Statistical analysis included descriptive statistics and multivariate logistic regression to identify predictors of hypertension.
Results: From study population of 949 hypertensive clients, 305(32.2%) were male and 644(67.8%) were female. 102 (10.7%) were underweight, 260 (27.4%) were overweight, 329 (34.7%) had a normal BMI, and 258 (27.2%) were obese. Females accounted for 76.7% (198/258) obese. Chi-square analysis showed a significant association between BMI and hypertension ($\chi2=90.74$, $p<0.001\backslash chi^2 = 90.74$, $p < 0.001\chi2=90.74$, $p<0.001$).
Logistic regression revealed that being overweight (Adjusted Odds Ratio [AOR]: 2.45; 95% Confidence Interval [CI]: 1.89–3.18) or obese (AOR: 3.12; 95% CI: 2.21–4.39) significantly increased the odds of hypertension. Advanced WHO clinical stages (Stage 3: 81.1%, 770/949; Stage 4: 16.2%, 154/949) were also significantly associated with hypertension.
Conclusions: The study confirms that elevated BMI is a key predictor of hypertension among PLWHIV. The associations between sociodemographic factors and hypertension further highlight the importance of health interventions. hypertension screening programs into HIV care services should be adopted to strengthening integrated HIV-NCD care for PLWHIV.

EP0165

Determinants of good physical activity among urban adults with and without HIV in Zambia and Zimbabwe

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Background: The growing burden of Noncommunicable diseases (NCDs) in sub-Saharan Africa (SSA) is primarily driven by rapid urbanization and the adoption of sedentary lifestyles. We aimed to assess factors associated with good physical activity (PA), based on WHO recommended levels, among a cohort of adults living with and without HIV in Zambia and Zimbabwe.
Methods: Data were collected from adults aged 30+ from ongoing NCD clinic-based cohorts in Zambia, and Zimbabwe. Self-reported PA and dietary habits were collected using WHO questionnaires. Objective PA was measured in a sub-set of participants using ActiGraph wGT3X-BT accelerometers. Good-PA was defined using the WHO threshold of ≥600 metabolic-equivalent minutes (MET-minutes)/week. We determined factors associated with good-PA measured by accelerometry using logistic regression.
Results: Between 2019 and 2023 we enrolled 969 adults, 409 (42%) PWH and 560 (58%) females. Accelerometry data was available for 87 individuals including 65 (75%) women and 26 (30%) PWH. Median age was 38 years (IQR: 32–47), 32 (37%) participants were employed and 41 (47%) had self-reported alcohol use. Mean fruit and vegetable intake was 2.4 servings per day which is less than recommend ≥5 servings per day. Participants self-reported an average of 9,024 (SD 4,674) MET-mins/week, whereas accelerometery measured an average of 1,039 MET minutes/week (SD: 623.4), with 71% (n = 62) meeting recommended good-PA. In the logistic model, PWH had lower odds of meeting good-PA (aOR 0.27, 95% CI: 0.09–0.77), and there were trends towards better PA in men (aOR = 1.17, 95% CI: 0.38–3.90) and unemployed participants (aOR = 2.87, 95% CI: 0.90–10.09) (Figure 1).

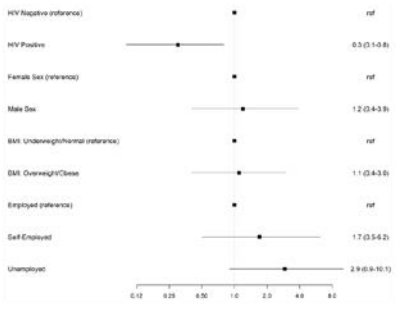


Figure 1. Factors associated with good physical activity defined as ≥600 MET-minutes/week on accelerometry.

Conclusions: Urban adults in Africa may over-report PA levels. While the majority of the sample had good PA, PWH were less-likely to meet recommended PA. These findings underscore the need to incorporate objective PA measures and interventions in routine healthcare for NCD prevention.

EP0166

Knowledge and associated factors of diabetes among people living with HIV in Rwanda: a cross-sectional study

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Background: The dual burden of communicable and non-communicable diseases remains a big public health challenge, particularly in sub-Saharan Africa. People living with HIV (PLHIV) are at a higher risk of developing diabetes due to chronic inflammation, antiretroviral therapy, and lifestyle factors. Despite the high burden of diabetes among PLHIV, in our setting there limited research on diabetes knowledge and associated factors among PLHIV which could affect early detection, treatment adherence, and the health outcomes.
This study aimed to assess the level of knowledge of diabetes among PLHIV in Rwanda and identify demographic, healthcare, and lifestyle factors associated with awareness to inform targeted interventions in HIV care programs.
Methods: A cross-sectional study was conducted nested within an ongoing cohort on health determinants for major NCDs among PLHIV in Rwanda between March and September 2021. Using random sampling 1,175 adults aged 18+ without a prior diabetes diagnosis were selected from 12 health facilities across five Rwandan provinces. Data were collected by trained research assistants under supervision of principal investigator using a structured and validated questionnaire; and descriptive statistics and multivariate logistic regression were used to identify determinants of diabetes awareness.
Results: Of participants, 36.56% reported no knowledge of diabetes, while 63.44% had some awareness. Women (55.72%) showed higher knowledge compared to men (53.52%). Awareness was significantly lower among older individual (40.94%) compared to younger (18–35 years) participants (59.6%). Educational attainment emerged as a critical factor, 84.78% with tertiary education showing awareness compared to 49.25% with no formal education. Lifestyle factors such as physical activity for at least 10 minutes was associated with better diabetes knowledge (OR=1.70, p=0.009), however, low-frequency stress at work has a modest (OR=1.31, p=0.212) and fruit and vegetable intake (AOR = 0.81, 95% CI: 0.51–1.21, p = 0.297) were not significant of diabetes knowledge.
Conclusions: The study highlights the urgent need to integrate diabetes education into HIV care programs, focusing on vulnerable groups such as older people and those with lower education levels. Gender-sensitive and age-specific interventions are essential to bridge identified knowledge gaps and enhance health outcomes for PLHIV.

EP0167

Visual inspection with acetic acid (VIA) in the community; reaching wider coverage for cervical cancer screening among key population women living with HIV (KP-WLHIV): Adamawa experience

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Background: Cervical Cancer is a leading cause of cancer in women second to breast cancer in Nigeria. The incidence of cervical cancer is more among women living with HIV due to their low immune status.
The Visual Inspection with Acetic acid (VIA) technique was recommended by the WHO for screening of cervical cancer especially in low resource settings (WHO, 2012).
Society for Family Health (SFH) is currently implementing a USAID funded project, Key Population Community HIV Services for Action and Response (KP CARE 2) which adopted this technique to screen all KP-WLHIV in Adamawa state.
Description: In the initial kick-off of the VIA campaign, the OSS Clinicians were trained on the VIA technique and use of Cryotherapy for treatment of VIA positive pre-cancerous lesions. These procedures were done mainly in the OSS which yielded small coverage.
A review necessitated the setup of community level structure, recruiting and training Community Health care workers (nurses and midwives) across the state.
Overall, all the LGAs in the state were clustered into 6 zones based on locations where the Program sited its Community Clinical Services Assistant Point (CCSAP) with each cluster having a trained community worker carrying out VIA screenings in the CCSAPs and conducting outreaches in hard-to-reach locations.

Lessons learned: In 2021 when screening was only done at the facility, 194 clients were screened. Following the use of community structure in 2022, 714(368%) clients were reached and screened. This was accompanied by consistent increased coverage in the following years.
Though there was an initial fall in the number VIA positive clients in 2022 and 2023 as compared to the initial 6 in 2021. But a significant result of 25 positives (417% compared to 2021) was achieved which was as a result of the continuous capacity building of the community workers. All the VIA positive clients had cryotherapy done at the OSS.

YEAR	2021	2022	2023	2024
No of women screened	194	714	1062	1242
NO VIA POSITIVES	6	5	2	25

Conclusions/Next steps: The use of trained community health workers for cervical cancer screening using the VIA technique has a significant impact in reaching a wider coverage of KP-WLHIV.

Antiretroviral therapies and clinical issues in adults

EP0168

First-line treatment failure in HIV care: insights from a 10-year multicenter observational study of over 6,500 people living with HIV in Senegal

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Background: Antiretroviral resistance is a major challenge, especially in low-income countries where access to advanced diagnostic tools remains limited. In Senegal, 20% of people living with HIV (pwHIV) on tenofovir-based regimens develop drug resistance mutations within 12 months, highlighting the need for better access to genotypic testing and improved evaluation
Methods: This multicenter, cross-sectional study was conducted among people living with HIV (pwHIV) followed-up at seven HIV clinics, including three university hospitals in Dakar and three regional hospitals in Ziguinchor, Kaolack, and Kolda, from 2013 to 2023. We included pwHIV aged 18 years or older who had been on antiretroviral treatment for at least six months. Therapeutic failure, as defined by WHO criteria, included clinical, immunological, and virological failure. The prevalence of therapeutic failure was reported as a proportion with a 95% confidence interval (95% CI), and associated factors were analysed using multivariable logistic regression.
Results: A total of 6,878 PLHIV were included in the study, of whom 4,316 (62.8%) were female, 3,294 (47.9%) were married, and 2,456 (35.7%) were from Dakar. The median age was 40 years (interquartile range [IQR]: 30–50). At enrollment, 731 participants (10.6%) were classified as WHO clinical stage IV, with a median CD4 count of 223 cells/mm³ (IQR: 69–447). Hepatitis B surface antigen (HBsAg) was detected in 10.5% of the participants. The median follow-up period was 69.1 months (IQR: 39.8–98.9). The prevalence of first-line treatment failure was 3.6% (95% CI: 3.1–4.1). Multivariable analysis identified significant associations between treatment failure and age <20 years (adjusted odds ratio [aOR] 4.4; 95% CI: 1.1–14.4; p=0.02), being part of Dakar cohorts (aOR 2.1; 95% CI: 1.1–4.1; p=0.03), the presence of opportunistic diseases (aOR 13.2; 95% CI: 6.8–26.0; p<0.001), and initiating antiretroviral therapy before 2016 (aOR 4.6; 95% CI: 1.9–13.8; p=0.002).
Conclusions: The prevalence of first-line treatment failure is low but is associated with younger age (<20 years), enrollment in Dakar cohorts, opportunistic diseases, and treatment initiation before 2016. Active failure monitoring, strengthening the "test and treat" strategy, and improving access to genotypic testing are essential to optimize HIV care in Senegal.

EP0169

Patient-reported outcomes among virally suppressed people living with HIV switching to dolutegravir/lamivudine vs. continuing bictegravir/emtricitabine/tenofovir alafenamide from the randomized DYAD study

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Background: We previously demonstrated noninferior efficacy of switching to dolutegravir/lamivudine (DTG/3TC) vs. continuing bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) among stably suppressed adults through Week (W) 48 in the DYAD study. Here, we present changes in patient-reported outcomes (PROs) through W48 among those switching to DTG/3TC vs. continuing B/F/TAF.
Methods: DYAD utilized PRO measures to evaluate HIV and antiretroviral-related symptom burden (HIV-SI), treatment satisfaction (HIVTSQ/c) and willingness to switch at baseline, W24 and W48 (willingness to switch only assessed at baseline among those on DTG/3TC). HIV-SI responses were dichotomized into bothersome vs. not bothersome and compared across time by treatment group using Chi-squared testing. Changes from base-

line in HIV-SI and HIVTSQ/c scores were compared between treatment groups with ANCOVA models adjusted for baseline score, gender, age, race/ethnicity, duration of HIV infection, duration of antiretroviral use and prior duration of B/F/TAF.

Results: Overall, 199 completed W48 and were included, 134 on DTG/3TC and 65 on B/F/TAF. At W24, 16% on DTG/3TC reported headache as bothersome compared to 6% on B/F/TAF (p=0.04), however, at W48 there was no significant difference in headache. At W48, 10% on DTG/3TC reported diarrhea as bothersome compared to 0% on B/F/TAF (p=0.01), however, there was no significant difference in diarrhea at W24. There were no other significant differences in bothersome symptoms through W48. At W48, both DTG/3TC and B/F/TAF participants demonstrated small reductions in the total HIV-SI symptom score (-5.9 vs. -4.3 respectively, adjusted treatment difference -1.6, 95% confidence interval (CI): -4.8; 1.5) and treatment satisfaction score (-3.7 vs. -3.2 respectively, adjusted treatment difference -0.5, 95% CI: -6.5; 5.5) with no significant differences by treatment arm. At baseline, top reasons for willingness to switch among those on DTG/3TC were interest in HIV research (85%) and physician request for study participation (61%).

Conclusions: In DYAD, both switching to DTG/3TC and continuing B/F/TAF were associated with similar and small reductions in overall symptom and treatment satisfaction score at W48. These data are the first describing PRO outcomes from a randomized clinical trial of DTG/3TC and B/F/TAF and support DTG/3TC as a switch option with comparable symptom burden and treatment satisfaction to modern 3-drug integrase inhibitor-based regimens.

EP0170

The power of choice: strong preference for CAB+RPV LA following rapid suppression with DTG/3TC in newly diagnosed people living with HIV

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Background: Dolutegravir/lamivudine (DTG/3TC) and long-acting cabotegravir plus rilpivirine (CAB+RPV LA) have demonstrated high efficacy and favorable tolerability, providing people living with HIV (PLWH) a greater number of options for two-drug regimens with different modalities and dosing frequencies to meet their individual needs. Understanding individuals' unique treatment choices is critical for ensuring person-centered care for PLWH.

Methods: VOLITION is a Phase 3b, multicenter, non-randomized, parallel-group, open-label study. ART-naive adults receiving initial treatment with daily DTG/3TC (~16-week Suppression Phase) were offered the choice to switch to CAB+RPV LA dosed every two months at the immediate next study visit (Day of Choice [DoC]) after attaining viral suppression (HIV-1 RNA <50 copies/mL). Participant experience was assessed at baseline/DoC using questionnaires that evaluated preference, advantages of having the option to choose, as well as reasons for, and feasibility of, switching.

Results: Overall, 171 participants initiated DTG/3TC, including 26% women, 30% Black or African American, and 51% Hispanic/Latinx. Baseline questionnaires demonstrated interest in LA therapy, with 85% (n=101/119) of participants expressing an interest in switching to CAB+RPV LA. At DoC, 129 (89%) of 145 eligible participants chose to switch to CAB+RPV LA and 16 (11%) chose to continue DTG/3TC. Treatment-naive participants valued being empowered with the option to switch after achieving rapid suppression and its associated advantages (**Table**). Participants reported switching as highly feasible (Feasibility of Intervention Measure [n=155]: mean, 4.3/5.0). The most common reasons why participants chose to switch to CAB+RPV LA were not having to worry about missing a dose each day (80%) and not having to carry medication (68%).

Question*	n=155
"How does it feel to be given a choice about your future HIV treatment?" n (%)	
I am happy to know there are options for future treatment to match my lifestyle	111 (72)
It provides me with an option to suit my needs and daily life	86 (55)
It gives me hope for the future	82 (53)
"What are the advantages of having the option of switching from a daily pill for HIV treatment to a long-acting HIV injection treatment to keep your HIV undetectable (virally suppressed)?" n (%)	
The option to switch fits my life better	108 (70)
Freedom to travel without concern about keeping my HIV undetectable	104 (67)
I get more of a say/more autonomy in my treatment	90 (58)

*Includes all participants who were offered the option to switch from DTG/3TC to CAB+RPV LA (10 participants answered surveys at DoC but were later deemed ineligible to switch). Responses are not mutually exclusive. The three most commonly reported answers are provided.
3TC, lamivudine; CAB, cabotegravir; DoC, Day of Choice; DTG, dolutegravir; LA, long-acting; RPV, rilpivirine.

Table. Participant perceptions of being given the option to switch to LA therapy and associated advantages (DoC).

Conclusions: Empowering newly diagnosed people with HIV with the opportunity to switch to CAB+RPV LA immediately after achieving rapid virologic suppression with DTG/3TC allowed participants to choose a treatment option that best met their individualized needs, which is essential for treatment success and quality of life.

EP0171

High virologic suppression and few virologic failures with Long-Acting Cabotegravir + Rilpivirine in Treatment Experienced Virologically Suppressed Individuals from COMBINE-2 cohort in Europe

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Background: Cabotegravir (CAB) + rilpivirine (RPV) is the first complete long-acting (LA) regimen indicated for virologically suppressed (viral load (VL) <50 copies /mL) people with HIV (PWH) on stable antiretroviral regimen without viral resistance to, and no prior virological failure with NNRTI and INI class. We assessed clinical outcomes among individuals initiating CAB+RPV LA regimen in real-world settings in Europe.

Methods: Treatment experienced, virologically suppressed PWH initiating CAB+RPV between December 2020 and May 2024 enrolled at NEAT-ID Network sites across seven European countries were included. VLs were assessed from first injection until discontinuation or time of analysis. Confirmed virologic failure (CVF; 2 VL ≥200 copies/mL or 1 VL ≥200 copies/mL+discontinuation) was assessed among those with follow-up VL.

Results: All 956 individuals initiating CAB+RPV were treatment experienced, had VL <50 copies/mL at initiation, no previous virologic failure or history of NNRTI or INSTI mutations among those with history available (62%). Median age was 45 years (IQR: 37-53), 85% males and 10% with BMI ≥30 kg/m^2 at initiation. 919 individuals (96%) had on-time injections with 3% having delayed doses and 1% missed injections. At time of analysis, 92% of individuals remained on CAB+RPV LA regimen with median follow-up of 10.2 months (IQR: 7.1, 16.6). Among 937 individuals with follow-up VLs, 925 (99%) had last measured VL <50 copies/mL. Of those with 6, 12, and 24-month VLs, 97%, 96% and 94%, respectively had follow-up VLs <50 copies/mL. Virologic control was similar regardless of BMI at initiation (last VL <50 copies/mL 99% vs. 99% among BMI <30 kg/m^2 and ≥30 kg/m^2 respectively). Five individuals (0.5%) had CVF after initiation of CAB+RPV with history of resistance data unavailable. Of them, 3 had resistance mutations to NNRTI and/or INSTI class at failure and 4 individuals suppressed after switching to PI and INI-based regimen with data unavailable on one individual.

Conclusions: This real-world data on PWH virologically suppressed at initiation on CAB+RPV LA in Europe demonstrated high levels of virologic control with low CVF. These data demonstrate high levels of adherence and persistence to the regimen. Among few with CVF, suppression was achieved after switching to PI or INI-based regimen.

EP0172

Efficacy of dolutegravir plus lamivudine in treatment-naïve people with HIV with baseline transmitted drug-resistance mutations: a subanalysis of the D2ARLING study

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Background: The two-drug regimen DTG+3TC is a recommended treatment option for antiretroviral-naïve people with HIV (PWH). In the pivotal GEMINI 1-2 trials, participants with any detectable transmitted resistance-associated mutations (tRAMs), regardless of their impact on the regimen, were excluded.

Consequently, the potential effect of tRAMs that do not compromise the activity of DTG+3TC regimen on virological response has not been assessed in randomized clinical trials.

This subanalysis of the D2ARLING study aimed to evaluate the efficacy of DTG+3TC compared to DTG+TDF/XTC in the context of such tRAMs.

Methods: This is a preplanned subanalysis of the D2ARLING trial, a randomized, open-label, phase IV study evaluating DTG+3TC versus DTG+TDF/XTC in treatment-naïve PWH without baseline resistance testing information. Per protocol, baseline genotypic resistance testing (RT and PI genes) was performed but remained blinded until study completion) (INSTI-tRAMs not tested).

This analysis included participants with baseline resistance results (n=211; 3 excluded due to amplification failure).

Efficacy was assessed as the proportion achieving HIV-1 RNA <50 copies/mL at week 48 in the presence of major NRTI, NNRTI, or PI tRAMs (IAS-USA mutation list, 2023) using an ITT-exposed snapshot algorithm and an observed analysis (participants with available HIV-1 RNA data or those who discontinued due to lack of efficacy).

Results: Of 211 participants, 104 received DTG+3TC, and 107 DTG+TDF/XTC. Major tRAMs were detected in 25% of the participants (NNRTIs: 21%, PIs: 3%, NRTIs: <1%) with no differences between arms. None of the identified NRTI-tRAMs compromised susceptibility to 3TC/FTC or TDF. Overall, participants with tRAMs had lower baseline HIV-1 RNA (27,520 vs. 49,600 copies/mL, p=0.014).

At week 48, among participants with tRAMs, 86% (24/28) (DTG+3TC) and 92% (22/24) (DTG+TDF/XTC) achieved HIV-1 RNA <50 copies/mL (p=0.67; ITT-exposed).

Observed analysis showed 96% suppression in both groups. Within the DTG+3TC group, suppression rates were comparable regardless of the presence or absence of tRAMs (96% vs. 99%, *p*=0.45). No protocol-defined virological failures occurred with DTG+3TC; and one with DTG+TDF/XTC.

Conclusions: DTG/3TC showed high efficacy at week 48, comparable to DTG+TDF/XTC in participants with tRAMs not affecting this regimen. The presence of such tRAMs did not compromise treatment outcomes in treatment-naïve individuals in this setting.

EP0173

Long-term persistence, effectiveness, safety, and metabolic impact of bictegravir/emtricitabine/tenofovir alafenamide fixed-dose combination in treatment-naïve and experienced people living with HIV in a large Latin American cohort

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Background: Real-world data for bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) fixed-dose combination (FDC) emerges mainly from cohorts from high-income settings, with scarce data on long-term effectiveness and safety for Latin American population.
We describe 48-month outcomes of people living with HIV (PLWH) prescribed B/F/TAF in clinical practice in Argentina.
Methods: Observational, retrospective open cohort study of treatment-naïve (TN) and experienced (TE) PLWH initiating B/F/TAF between 10/2019-12/2022. We evaluated persistence and virologic suppression (VS, <50 copies/mL), occurrence of adverse events (AE) and metabolic parameters (fasting glucose, cholesterol and triglycerides) at 24, 36 and 48-month time points.
Results: We included 3057 PLWH: 425 TN (14%) and 2632 TE (86%). Baseline characteristics: median age (IQR) was 45 (36-52) years; 73% were male; 99.6% were of latin/hispanic ethnicity. TN were younger than TE PLWH (median 36 vs. 46 years), had less frequency of comorbidities (21% vs. 49%) and lower CD4 T-cell counts (median 318 vs. 624/uL). In the TE group, 89% had VS when switched to B/F/TAF, while in the TN group, the median baseline viral load was 47,300 c/mL. TE subjects were switched mainly for simplification (54%) from boosted-PI (36%) and first-generation NNRTI (34%) regimens. In TN, at 24, 36, and 48 months, persistence and VS rates were 99%, 97%, and 95%; and 95%, 93%, and 90%, respectively. AE rate was zero. For TE, persistence and VS rates were 98%, 96%, and 88%; and 96%, 98%, and 98%, respectively. AE rates were 0.4%, 0.1%, and 0%. No virological failure occurred.
In both groups, no changes in fasting glucose were observed. TN PLWH showed increases in LDL, HDL and total cholesterol values (p <0.001) from baseline to 24, 36 and 48 months without changes in triglycerides values. In TE, all cholesterol values remain stable while triglycerides decreased over time (p <0.001).
Conclusions: In TN and TE PLWH from Argentina, B/F/TAF demonstrated high persistence and sustained VS, with low AE rates over 48 months. To our knowledge, these findings represent the first long-term real-world evidence from Latin America, supporting B/F/TAF in guidelines as an effective and well-tolerated treatment option.

EP0174

Efficacy, and safety of ainuovirine-based antiretroviral regimen in women with HIV-1: the pooled analysis of the RACER, and SPRINT studies, two multicenter, randomized, active controlled phase 3 trials

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Background: In the RACER, and SPRINT studies, ainuovirine plus lamivudine and tenofovir DF (ANV/3TC/TDF) demonstrated durable virological suppression non-inferior to currently approved antiretroviral regimens in people with HIV-1.
This integrated analysis aimed to evaluate the virological outcomes, and safety profile of ANV/3TC/TDF in women with HIV-1 (WWH) at week 48.
Methods: In the RACER study (N=34), 18, and 16 treatment-naïve WWH were randomized, and medicated with ANV/3TC/TDF, and EFV/3TC/TDF, respectively. In the SPRINT study (N=22), 11, and 11 virologically suppressed WWH were randomized, and medicated with ANV/3TC/TDF, and E/C/F/TAF, respectively. Viral suppression was defined as HIV-1 RNA titer below 50 copies/mL as per the US FDA snapshot algorithm.
Results: High proportion of viral suppression was achieved in either arm at 48 wk, and in both studies. Change from baseline in CD4 cell absolute count was comparable between the two arms in the treatment-naïve women at 48 wk; that was numerically higher with the ANV/3TC/TDF arm compared to that with the E/C/F/TAF arm (28.5±96.3 vs. -42.6±83.0 cells/mm^3).
Frequencies of treatment-emergent adverse events, and adverse drug reactions (ADRs) were also comparable between the two arms in both studies, excepting for

a numerically lower frequency of ADRs with the ANV/3TC/TDF arm compared to that with the E/C/F/TAF arm (45.5% vs. 81.8%). Common AEs consisted mainly of neurological symptoms, and laboratory abnormalities. These AEs were generally similar between the two arms in both studies; however, the difference in frequency of dizziness was statistically significant for the treatment-naïve women (16.7% vs. 68.8%, P = 0.006), and those in frequencies of abnormal serum cholesterol, LDL-C, and T-wave on ECG were also statistically significant for the virologically suppressed women (all P-values <0.05). Serum LDL-C, and/or total cholesterol showed a marked divergence in change from baseline (CFB) between the two arms for either study, with a decreasing trend in the ANV/3TC/TDF arm in contrast to an increasing trend in the comparator arm, even at a statistical significance for total cholesterol in the virologically suppressed women.

Conclusions: Although at a small sample size, ANV/3TC/TDF regimen showed high viral suppression comparable to the comparators in both treatment-naïve, and virologically suppressed women.

EP0175

An open-label Phase 1 study to evaluate drug interactions between multiple weekly doses of ulonivirine (MK-8507) and single doses of islatravir in adults without HIV

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Background: Ulonivirine (ULO, MK-8507), an oral NNRTI, is being investigated in combination with islatravir (ISL) as a once-weekly (QW) treatment for HIV-1. Initial clinical development of ULO with ISL 20 mg QW was paused in 2021 due to dose-dependent decreases in total lymphocyte and CD4+ T-cell counts seen across the ISL program; development was recently resumed with ULO 200 mg and ISL 2 mg.
This study aimed to evaluate any drug-drug interactions (DDIs) between ULO 200 mg and ISL 2 mg.
Methods: Two-way DDI was assessed in an open-label, 3-period, fixed-sequence, Phase 1 study in adults without HIV (MK-8507-016).
In Period 1, participants received a single dose of oral ISL 2 mg alone on Day 1. In Period 2, participants received doses of ULO 200 mg alone on Days 1 and 8. In Period 3, a single dose of ISL 2 mg was co-administered with ULO 200 mg 7 days after the Day 8 dose of ULO in Period 2, followed by weekly dosing of ULO until Day 29.
Blood samples were collected for pharmacokinetic (PK) analysis; ULO, ISL, and ISL-triphosphate (TP) PK under each condition were compared. Safety was monitored by clinical and laboratory assessments.
Results: Thirty-six participants (58% female; 67% White) were enrolled; mean age was 42.1 years (range, 19-62 years). Plasma ULO PK were similar with and without ISL, and plasma ISL PK were similar with and without ULO. Although not pre-specified, the 90% CIs for the geometric mean ratios for AUC, C_{168}, and C_{max} were confined within standard bioequivalence bounds [0.8, 1.25] (Table). There were modest decreases in ISL-TP exposure following co-administration with ULO relative to ISL administered alone, but these were not clinically meaningful. The safety profiles for multiple doses of ULO 200 mg QW and single doses of ISL 2 mg, alone or in combination, were similar.
Conclusions: No clinically meaningful DDI was observed when ULO and ISL were co-administered.

Parameter	Plasma ULO [n, ULO+ISL/n, ULO alone]	Plasma ISL [n, ULO+ISL/n, ISL alone]	PBMC ISL-TP [n, ULO+ISL/n, ISL alone]
$AUC_{0\text{-}168}$	1.07 (1.05-1.09) [35/35]	1.06 (1.02-1.09) [35/36]	0.79 (0.74-0.85) [35/36]
$AUC_{0\text{-}inf}$	NA	1.07 (1.03-1.11) [35/36]	0.85 (0.80-0.91) [33/32]
C_{168}	1.08 (1.04-1.12) [35/35]	1.10 (1.02-1.19) [35/36]	0.84 (0.77-0.91) [35/36]
C_{max}	1.03 (0.98-1.07) [35/35]	1.05 (0.98-1.12) [35/36]	0.90 (0.80-1.01) [35/36]

$AUC_{0\text{-}168}$, area under the concentration versus time curve from 0 to 168 hours after dosing; $AUC_{0\text{-}inf}$, area under the concentration versus time curve from 0 to infinity; C_{168}, drug concentration at hour 168; C_{max}, maximum observed concentration; ISL, islatravir; NA, not applicable; PBMC, peripheral blood mononuclear cell; TP, triphosphate; ULO, ulonivirine.

Table. Geometric Mean Ratio With 90% CI Following Co-administration Relative to Single-agent Administration.

EP0176

A double-blind, placebo-controlled, Phase 1 study to evaluate extended multiple dosing of ulonivirine (MK-8507) in adults without HIV

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Background: Ulonivirine (ULO, MK-8507), an NNRTI with a favorable safety profile and pharmacokinetic properties that support once-weekly (QW) dosing, is in development in combination with islatravir (ISL) for the treatment of HIV-1. Initial clinical development of ULO with ISL 20 mg QW was paused in 2021 due to dose-dependent decreases in total lymphocyte and CD4+ T-cell counts seen across the ISL development program; development was recently resumed with ULO 200 mg and ISL 2 mg.
This study evaluated the safety and tolerability of extended multiple QW dosing of ULO alone.
Methods: A randomized, placebo-controlled, double-blind, Phase 1 trial (MK-8507-015) was conducted in adults without HIV receiving ULO 200 mg or placebo QW (3:1) for 12 weeks. Safety was assessed by adverse event (AE) reporting and laboratory evaluations. Mean percent change from baseline in total lymphocyte and CD4+ T-cell counts were analyzed; a >10% decrease from baseline in lymphocyte counts would indicate a clinically significant change. Participants had a post-study visit at Week 14.
Results: A total of 80 participants were enrolled; 77 completed study intervention. No pausing or stopping rules were met during the study. AEs of mild or moderate severity were reported by 86.7% and 90.0% of participants in the ULO and placebo groups, respectively. No deaths or serious AEs were reported. One participant in the ULO group met the protocol-specified discontinuation criterion for decreased CD4+ T-cell counts (~35% decrease from

baseline) after a single dose of ULO, the counts returned to baseline after 4 weeks. At the post-study visit, the lower bound of the 95% CI for the mean percent changes in total lymphocyte and CD4+ T-cell counts were greater than −10% (ie, less negative) after administration of ULO (Table).

Conclusions: ULO 200 mg QW demonstrated an AE profile similar to that of placebo and did not decrease total lymphocyte or CD4+ T-cell counts to a clinically significant degree in adults without HIV.

	Baseline[a]		Post-study[a]		Change From Baseline[a]		Percent Change From Baseline LSM[b]
Treatment	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	(90% CI)
Total lymphocytes							
ULO	60	1.88 (0.430)	58	1.83 (0.425)	58	−0.072 (0.308)	−3.30 (−6.33 to −0.275)
Placebo	20	2.01 (0.455)	19	1.83 (0.468)	19	−0.140 (0.293)	−6.66 (−12.0 to −1.37)
CD4+ T cells							
ULO	60	0.931 (0.290)	58	0.894 (0.251)	58	−0.048 (0.197)	−3.03 (−7.55 to 1.50)
Placebo	20	0.943 (0.267)	19	0.876 (0.267)	19	−0.041 (0.265)	−1.59 (−9.49 to 6.31)

LSM, least squares mean; SD, standard deviation; ULO, ulonivirine.
[a]Arithmetic mean and SD were provided for baseline, post-study, and change from baseline.
[b]The LSM and their 90% CIs on percent change from baseline were estimated from a linear mixed effects model containing fixed effects terms for treatment, timepoint, and treatment by timepoint interaction, with a compound symmetry covariance matrix to model the correlation between different timepoints for the same participant.
Baseline is the average of all available screening and Day 1 pre-dose measurements. Post-study is Day 92 ± 3 days.

Table. Percent Change From Baseline for Total Lymphocyte Counts (10^9 cells/L) and CD4+ T-cell Counts (10^9 cells/L) Following Administration of Multiple Doses of ULO 200 mg or Placebo in Adults Without HIV.

EP0177

Navigating the dynamics of low-level viremia: the role of enhanced adherence counseling in viral suppression

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Background: Antiretroviral therapy (ART) enables viral suppression to below 50 copies/mL in most persons living with HIV (PLWH). However, persistent low-level viremia (pLLV) between 50 and 1000 copies/mL poses a challenge, being associated with virological failure (VF), viral genotype resistance, and residual immune activation leading to adverse clinical outcomes. Enhanced Adherence Counseling (EAC) is a critical intervention for addressing pLLV.

This study evaluated the effectiveness of EAC in achieving viral suppression and explored demographic associations with EAC completion and suppression outcomes.

Methods: The study was conducted in two secondary health facilities in Nasarawa State over a one-year period using a cross-sectional design. The study population included PLHIV with low-level viremia who underwent EAC. Data on EAC completion and viral suppression were analyzed using statistical methods, including ANOVA and t-tests, to evaluate associations with age and sex.

Results: Among 5723 clients tested, 490 (8.6%) had pLLV, and 157 of these completed EAC with repeat viral load testing. Of those, 97 (61.8%) achieved viral suppression below 50 copies/mL. Age was significantly associated with EAC completion ($F(2,3) = 18.322$, $p = 0.021$) and viral suppression ($F(2,3) = 10.743$, $p = 0.043$), with clients aged 20 and above demonstrating higher rates in both outcomes. There was no significant association between sex and either EAC completion ($t(4) = -0.338$, $p = 0.752$) or viral suppression ($t(4) = -0.412$, $p = 0.701$).

Conclusions: This study highlights the critical role of age in adherence and viral suppression, with older clients achieving better outcomes. The lack of gender disparity in outcomes suggests equitable effectiveness of EAC across sexes. Targeted interventions are needed to improve adherence and viral suppression among younger age groups.

EP0178

Clinical outcomes at month 24 after initiation of cabotegravir and rilpivirine long acting (CAB+RPV LA) in an observational real-world study (BEYOND)

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Background: CAB+RPV LA is the first complete long-acting regimen for virologically suppressed people with HIV (PWH). The BEYOND real-world study describes the clinical outcomes of PWH initiating CAB+RPV LA in the US.

Methods: BEYOND is a 2-year observational study of utilization, outcomes, and experience of PWH initiating CAB+RPV LA (monthly or every 2 months) across 30 US sites. Healthcare providers completed an electronic case report form (eCRF) at baseline and Months (M) 6, 12, and 24 to capture demographics, medical and treatment history, and clinical outcomes. Final study results at M24 are reported herein.

Results: 308 PWH were enrolled and initiated CAB+RPV LA between Sep 2021-Jul 2022. Mean age was 46 years, 39% were ≥50 years, 13% were assigned female at birth, with 44% White, 33% Black, and 23% other races. This M24 analysis includes 257 PWH of whom 211 completed the study and were continuing CAB+RPV LA following M24, 24 discontinued CAB+RPV LA since M12, and 22 had unknown treatment status at M24.

An additional 43 participants had discontinued and 8 had unknown status as of the M12 analysis and did not contribute data at M24. The most common primary reasons for treatment discontinuation (all timepoints; n=65, missing 2 responses) were 'other' reason (29%), medication cost/access issues (20%), PWH preference (20%) and injection reactions/pain (9%). At M24, 98% were receiving CAB+RPV LA every 2 months and 2% were on monthly dosing. Of

PWH with viral load <50 c/mL at baseline, 97% had a most recent viral load of <50 c/mL at M24 (Table). There were no new confirmed virologic failures (CVF) after Month 6.

	Month 6 (N=308)	Month 12 (N=273)	Month 24 (N=257)
Participants with viral load data available at both baseline and respective timepoint, n*	265	210	204
Participants with baseline viral load <50 c/mL, n	247	196	193
Viral load <50 c/mL, n (%)	235 (95.1%)	190 (96.9%)	188 (97.4%)
Viral load ≥50 c/mL, n (%)	12 (4.9%)	6 (3.1%)	5 (2.6%)
Participants with baseline viral load >50 c/mL, n	18	14	11
Viral load <50 c/mL, n (%)	17 (94.4%)	13 (92.9%)	10 (90.9%)
Viral load ≥50 c/mL, n (%)	1 (5.6%)	1 (7.1%)	1 (9.1%)
Confirmed virologic failure n (%)†	6 (1.9%)	0	0

*Based on most recent viral load on or prior to timepoint
†Confirmed virologic failure was defined as 2 consecutive HIV-1 RNA viral loads ≥200 c/mL or 1 HIV-1 RNA viral load ≥200 c/mL followed by regimen discontinuation within 3 months of viral load ≥200 c/mL. A cumulative total of 6/308 CVFs occurred during the study. The one CVF previously reported at Month 12 was later determined to be reported in error due to the confirmatory viral load being collected after the participant had discontinued CAB+RPV LA.

Table: Virologic Outcomes Observed.

Conclusions: The final results from this 2-year real-world US study of CAB+RPV LA are consistent with the phase 3/3b clinical trials, with few discontinuations due to injection reactions/pain, high rates of virologic suppression, and low rates of virologic failures.

EP0179

Improvement in drug concentrations after an adherence intervention: data from the RETAIN study

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Background: We present data from "Improving RETention and viral load outcomes for people taking antiretroviral therapy (ART) through early IdentificatioN of missed doses (RETAIN)", a cohort study exploring paired drug concentration metrics in people on ART with documented poor adherence, before and after adherence intervention.
Methods: ART-naïve people commencing dolutegravir-based ART from three Cape Town clinics had adherence monitored by missed doses (<80%), missed clinic visit (>30 days late), or by raised VL (>50 copies/ml).
At the first indication of poor adherence by any measure, participants were invited for blood draw (visit 1) for HIV-1 VL, tenofovir plasma concentration (describes adherence over the past 3-5 days), and TFV-DP concentration (describes TVF-DP concentrations over the past 4-8 weeks); and urine collection for tenofovir rapid assay. The same metrics were repeated 12-16 weeks later (visit 2), after completing a counselling-based adherence intervention. McNemar's test was used to assess changes in binary paired observations; Wilcoxon signed-rank test were used for continuous paired observations.
Results: Between July 2022 and September 2024, 180 people identified as being non-adherent were invited to attend visit 1: 129 (72%) were women, mean(±SD) age of 30(±9) years. Poor adherence was objectively confirmed: 48 (27%) had suboptimal plasma tenofovir concentrations (<40ng/ml); 35 (19%) had no tenofovir in their urine; and 45 (25%) were viraemic (>50 copies/ml). Median (IQR) TFV-DP concentrations were suboptimal: 632 (400-864) fmol/punch (normal range >800fmol/punch).
A total of 108(60%) people attended visit 2. In those with paired samples there was no significant improvement in the short-term adherence metrics (urine and plasma tenofovir). However, a significant improvement was observed in median (IQR) TFV-DP: 887 (542-1125) fmol/punch (p<0.00); and fewer, 16(15%), remained viraemic (Fig1).
Conclusions: Poor ART adherence among newly-initiated individuals was confirmed by drug measures. A counselling-based adherence intervention resulted in a significant increase in TFV-DP, indicating an objective improvement in longer term adherence.
Despite this increase, there was no change in short-term adherence metrics, i.e. no change in dosing in the 3-5 days before study visits (likely white-coat dosing). Adherence interventions can result in significant improvement in drug concentrations, but retention in care remains a significant challenge.

EP0180

Effectiveness of long-acting injectable antiretroviral therapy among persons with HIV and adherence barriers

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Background: Long-acting injectable cabotegravir and rilpivirine (LAI-CAB/RPV) may improve outcomes for persons with HIV (PWH) experiencing adherence difficulties. However, real-world outcome data without conditional economic incentives are limited. This study evaluated LAI-CAB/RPV among PWH with adherence difficulties.
Methods: We conducted a retrospective observational study of PWH with adherence challenges who initiated LAI-CAB/RPV between November 2021 and December 2023 at a single HIV center in Southern California, USA. Adherence challenges were defined as ≥1 HIV viral load (VL) >200 copies/mL in the prior 12 months and either poor response to oral ART or loss-to-follow-up (LTFU) in the prior 18 months. Primary outcomes were virologic failure (VF) requiring therapy change or LTFU within 48 weeks. Secondary outcomes included descriptive outcomes, resistance mutations, and salvage regimens.
Results: Sixty-four PWH initiated LAI-CAB/RPV: 71.9% male, 26.6% female, and 1.6% non-binary; 45.3% White, 17.2% Black, and 34.4% Hispanic. Active substance use and mental health diagnoses were present in 40.6% and 54.7%, re-

spectively. At LAI-CAB/RPV initiation, 45.3% had VL ≥50 copies/mL and 14.1% had VL >10,000 copies/mL. Over 48 weeks, 6 (9.4%) had VL >200 copies/mL, including 3 (4.7%) with VF requiring regimen changes. All VF cases had NNRTI and/or INSTI RAMs but achieved suppression on oral ART (*Table 1*). Eight discontinued LAI-CAB/RPV for other reasons. Three were LTFU, later reengaging in care (*Table 2*).

Logistic regression identified an association between substance use and the primary outcome (OR 8.81, p=0.05). Methamphetamine specifically increased odds (OR 12.06, p=0.03). Multiple logistic regression confirmed active substance use as a predictor (OR 10.55, p=0.04). Other variables (baseline CD4, race, etc.) were not significantly associated.

Participant	NNRTI Mutations	INSTI Mutations	Suppressive Regimen
1	E138A, M230L	G140S, Q148H	TAF/FTC/DRV/c
2	A98G, V108I, E138K	G140C, Q148R	TAF/FTC/DRV/c
3	M230I, E138Q, V179L	-	TAF/FTC/BIC

Table 1. Mutations and Suppressive Oral ART in Clients with VF.

Participant	LTFU Details	Outcome
1	Returned 5 months after last LAI-CAB/RPV injection with suppressed VL while taking TAF/FTC/DRV/c	Continued on TAF/FTC/DRV/c with suppression of VL
2	Returned 6 months after last LAI-CAB/RPV injection (sporadically took TAF/FTC/BIC during this time), VL 146 copies/mL on representation	Continued on TAF/FTC/BIC with suppression of VL
3	Returned 10 months later, admitted for Cryptococcal meningitis	LTFU again after hospitalization

Table 2. Outcomes of Clients LTFU.

Conclusions: In a real-world setting, LAI-CAB/RPV among PWH with adherence difficulties demonstrated low rates of VF or LTFU (combined 9.4%) within 48 weeks of initiation. LAI-CAB/RPV should be considered in individuals with adherence difficulties.

EP0181

Adherence to antiretroviral therapy and its association with quality of life among people living with HIV/AIDS in Nigeria

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Background: Antiretroviral therapies have remained the cornerstone to improving the quality of life among people living with HIV. Although advances in ART have improved treatment success rates, adherence remains important to achieving the best outcomes. Thus, this study was conducted to assess the effect of adherence to ART and, on the health-related quality of life of People Living with HIV/ AIDS in Northwestern Nigeria.

Methods: This was a cross-sectional descriptive study involving PLWHA accessing care in three tertiary hospitals in Nigeria. Respondents were selected and administered a sociodemographic questionnaire, the Simplified Medication Adherence Questionnaire, and the 15D QoL Questionnaire. Appropriate descriptive and inferential statistical analyses were conducted using SPSS version 21.

Results: The study involved 877 people living with HIV/AIDS, who were predominantly females (64.5%), 66% were between the ages of 31-50 years and were mostly married (63.5%). More than half (63.8%) of the participants had secondary-level education and earned less than 30 USD/month. Non-adherence was observed in 456 (52.5%) participants, with a mean 15D score of 0.97 ± 0.42. The mean QoL score was significantly lower ($p < 0.001$) among non-adherent respondents (0.96, S.D. ± 0.33), compared to those who adhered to their medication (0.98, S.D. ± 0.04). A linear regression model showed that age over 60 years old (β = -0.020, $p = 0.032$), being divorced (β =-0.021, $p = 0.04$), and having a comorbid condition (β = -0.013, $p = 0.002$) were negative predictors of QoL. In contrast, adherence (β = 0.09, $p = 0.017$) was a positive predictor of QoL.

Conclusions: Adherence to ART was suboptimal in this study. This calls for the need to review and optimize the existing strategies for improving adherence in HIV clinics. Age, comorbid conditions, and adherence were significant predictors of QoL. Elderly PLWHA, especially those with comorbid conditions or any of the negative predictors of QoL, are at increased risk of poor QoL and, thus, should be prioritized for QoL optimization strategies in HIV clinics.

EP0182

Comparative effectiveness of modern antiretroviral therapy regimens among people living with HIV in China: a multicenter cohort study

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Background: Given the slow introduction of new antiretroviral therapy (ART) drugs, poor adherence resulting from high costs, and slow updates in treatment policies in low- and middle-income countries (LMICs), there is an urgent need for new evidence to reinforce the prioritization of integrase strand transfer inhibitor (INSTI) as the primary treatment option for people living with HIV (PLHIV) in these countries.

We aimed to explore the effects of modern ART regimens on CD4 counts among PLHIV in China, using larger multicenter cohorts and robust approaches, thereby providing real-world evidence on this topic from LMICs.

Methods: Anonymised clinical data for PLHIV treated at major infectious disease hospitals from 12 provinces and municipalities in China who initiated ART between January 1, 2017 and September 30, 2020, were included and

followed-up until December 31, 2020. Most frequently used third ART drugs included nevirapine, efavirenz, dolutegravir, lopinavir, and others (including darunavir, raltegravie, elvitegravir and rilpivirine).
We used linear mixed-effects models with a first-order autoregressive covariance structure and interaction terms (time-versus-treatment group) to assess whether CD4 count changes of PLHIV differed significantly over time between the treatment groups.
To evaluate whether there were differences in the time of immune recovery among different ART regimen groups, we used negative binomial models to fit the time of immune recovery (CD4 >500 cells/μL) of PLHIV.
Results: 54,919 individuals contributed 96,260 person-years of follow-up. Results from the mixed-effects model supported significant advantages in CD4 count gains of PLHIV who initiated dolutegravir-, lopinavir-, and others in China compared to initiating efavirenz-based ART. Results from negative binomial model suggested that dolutegravir- and others-based ART demonstrated a positive impact on the time of immune recovery of PLHIV, leading to reductions of 0.21 years and 0.47 years, respectively.
Conclusions: Our findings further reinforce the positioning of dolutegravir-based regimens as preferred options in LMICs.

EP0183

Leveraging 340B funding to implement long-acting ART at a hospital-based clinic

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Background: Long-acting injectable cabotegravir-rilpivirine (LAI CAB/RPV) was approved in 2021 for treatment in people living with HIV (PLWH). Administered every 2 months, it is an alternative to daily oral medication. The Immunodeficiency Clinic (IDC), a hospital-based clinic at Albert Einstein Medical Center, developed a protocol for the implementation of LAI CAB/RPV.
Description: The medical director and program director developed a detailed protocol and workflow for implementing LAI CAB/RPV, which included a prescribing and monitoring protocol for clinical staff, and a workflow for ordering medications through the 340B pharmacy, obtaining insurance prior authorization, medication delivery and refrigerated storage, medication administration and tracking of patient injection appointments. Per initial treatment data and guidelines, patients were virologically suppressed at initiation.
A cross-sectional analysis was performed to compare virologic suppression in patients on LAI CAB/RPV vs oral medication.
Lessons learned: As of September 30, 2024, 130 PLWH in our clinic are on ongoing LAI CAB-RPV. A total of 137 initiated LAI CAB-RPV since 2021; 5 are now discharged from the practice and 2 are deceased from non-HIV related illnesses. Of the 130 patients on LAI CAB-RPV, 90% (117/130) have a viral load of <50 viral copies/ml, compared to 76% (632/832) of patients on oral antiretroviral medication, X^2 (1, N=962) = 12.9 p<.01. To date, 100% of patients on LAI CAB-RPV (130/130) have a viral load of < 200 viral copies/ml, compared to 92% (767/832) of patients on oral ART.
Conclusions/Next steps: A protocol and workflow for LAI CAB/RPV was successfully implemented at our hospital-based clinic with a high rate of virologic suppression.
As a result of robust demand and use of the 340B pharmacy to obtain medication, the incremental revenue allowed for salary coverage of a dedicated medical assistant (MA) *and* a nurse (RN) to obtain authorization, administer medication and track appointments help with supervision and additional clinical services.

EP0184

Real-world efficacy and tolerability of long-acting cabotegravir/rilpivirine in woman with HIV and polypharmacy plus comorbidities

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Background: Women, particularly older adults with comorbidities and polypharmacy, are underrepresented in clinical trials of long-acting (LA) antiretroviral therapy (ART).
This real-world study aimed to evaluate, from gender perspective, the efficacy and safety of LA cabotegravir/rilpivirine (CAB/RPV) in a cohort of adults with extensive prior ART, multiple comorbidities, and polypharmacy.
Methods: From the overall CAB/RPV cohort, using propensity score matching by age, Spanish origin, ART duration, baseline BMI, and CD4 counts, women were paired 1:3 with men. The study focuses on comparing gender differences on virologic failure (including viral blips), adverse events (including injection site reactions), treatment discontinuations, preference to continue LA ART and whether initiation of LA ART was driven by person with HIV suggestion or physician request
Results: From January 2023 to July 2024, we included a total of 169 participants, forty-one women and 128 men, with a median follow-up of 11 months. Despite a higher rate of comorbidities 35 (85.37%) vs.72 (56.25%) p=0.004 in women vs. men, virologic failure was comparable, only one woman experienced virologic failure 1 (2,44%) vs. 0 (0.0%) p=NS, few viral blips were observed (4.88% vs. 2.34% in men, p=0.405), none of them led to virological failure. In women, it was observed a tendency to more adverse events (12.2% vs.3.91% p=0.050) and similarly for treatment discontinuations (12.2% vs. 3.91%, p=0.050).
We observed few adverse events leading to discontinuation in both sexes 3 (7.32%) vs. 4 (3.12%) p=0.241. Physician-driven initiation of CAB/RPV was more common among women (70.73% vs. 50.81% in men, p=0.026), while men more often initiated therapy at their request.

Conclusions: Women starting CAB/RPV presented a higher rate of comorbidities and were advice by their physicians more frequently to do so. Virologic failure rates were similar between men and women, but women had non-significant higher rates of adverse events, treatment discontinuation, suggesting potential sex-based differences in tolerability to LA ART.

EP0185

Double-dose dolutegravir and lamivudine versus efavirenz-based antiretroviral therapy for individuals with HIV and tuberculosis: a multicenter, open-label, randomized trial

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Background: This study evaluated the efficacy and safety of a dual therapy regimen comprising double-dose dolutegravir plus lamivudine in treating HIV-positive people with tuberculosis.

Methods: This was a randomized, open label, parallel-controlled trail conducted at sixteen centers in China (ChiCTR2300075493). It included HIV-positive adults who were antiretroviral therapy-naïve and had initiated rifampicin-based anti-tuberculosis therapy ≤2 weeks prior. Participants were randomized (1:1) to receive either dolutegravir (50 mg twice daily) plus lamivudine (2DR arm) or efavirenz (600 mg daily) with tenofovir and lamivudine (3DR arm), beginning at 2-4 weeks after anti-tuberculosis treatment.

The primary outcome was virological suppression (HIV-1 RNA <50 copies/mL) at week 24 in the modified intention-to-treat exposed group.

Results: Between July 2023 and July 2024, 32 participants were randomly assigned to either the 2DR (N=21) or 3DR (N=11) arm. In the 2DR group: 38.1% (8/21) had baseline HIV RNA >500,000 copies/mL. Mean baseline HIV-1 RNA: 5.49 ± 0.66 $\log_{10}$ copies/mL. Median CD4+ count: 48 cells/μL (IQR 28.2-107.1).

For the 3DR group: 9.1% (1/11) had HIV RNA >500,000 copies/mL. Mean baseline HIV RNA: 5.36 ± 0.62 $\log_{10}$ copies/mL. Median CD4+ count: 78.8 cells/μL (IQR 37-294). At week 24, virological suppression rates were 76.2% (16/21) in the 2DR group and 90.9% (10/11) in the 3DR group (For more details, see Figure 1).

There was no statistically significant difference in viral suppression (P = 0.637). No virological failures occurred. Three IRIS events were reported: two in the 2DR group and one in the 3DR group, with no discontinuations due to IRIS.

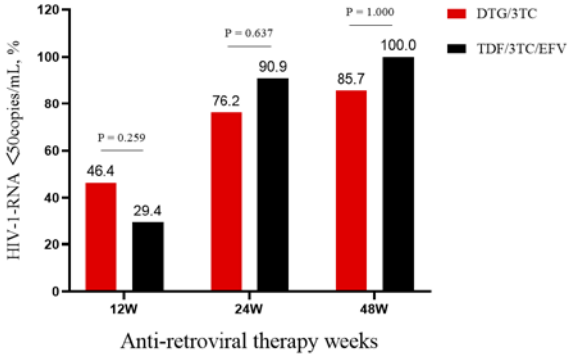


Figure 1. Comparison of HIV-1 RNA <50 copies/mL between the 2DR (DTG/3TC) and 3DR (TDF/3TC/EFV) groups at 12, 24, and 48 weeks of antiretroviral therapy. The numbers of cases in the 2DR vs. 3DR groups were 28 vs. 17 at 12 weeks, 21 vs. 11 at 24 weeks, and 7 vs. 6 at 48 weeks.

Conclusions: Double-dose dolutegravir with lamivudine was equally effective for HIV-positive adults on rifampicin-based anti-tuberculosis treatment compared to a three-drug regimen of efavirenz, tenofovir, and lamivudine. This dual therapy may provide a new option for people with HIV-associated tuberculosis.

EP0186

The prevalence and associated factors of potential drug-drug interactions in people living with HIV/AIDS: a retrospective study at a Nigerian tertiary hospital

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Background: The challenge of HIV treatment regimens, often involving multiple medications, raises concerns about drug-drug interactions (DDIs) that can adversely affect the safety and treatment efficacy. This study aimed to assess potential DDIs and contributing factors among adults diagnosed with HIV/AIDS.

Methods: The study was performed at the University of Uyo Teaching Hospital, Uyo, Nigeria. A retrospective cross-sectional design was employed, analyzing medical records from September 2023 to August 2024. A systematic random sampling method was used to select 385 records from a total of 3,726. Data extraction included demographics, HIV stages, comorbidities, and prescribed medications. DDIs were identified using the Medscape Drug Interaction Checker. Statistical analysis was performed using R programming, incorporating descriptive statistics, Chi-Square test, and logistic regression to explore associations between DDIs and various risk factors.

Results: Among the 385 individuals, 242 (62.9%) were <50 years old, and 143 (37.1%) were ³50 years old. The HIV stage distribution included 116 (30.1%) in stage 1, 167 (43.4%) in

stage 2, 54 (14.0%) in stage 3, and 48 (12.5%) in stage 4. A total of 149 (38.7% of the sample) had comorbidities, with hypertension (31.5%), tuberculosis (28.2%), urinary tract diseases (15.4%), and malaria (14.9%) being the most common. Of the 4,042 prescriptions analyzed, 3,937 (97.4%) showed interactions, with 74.8% classified as minor, 13.9% as requiring close monitoring, 11.0% as serious, and 0.3% as contraindicated.

The primary contributors to serious drug-drug interactions (DDIs) were Erythromycin+Loratadine (56.8%), Rifampin+Pyrazinamide (20.0%), and Rifampin+Isoniazid (17.5%). The only contributors to contraindicated DDIs included Erythromycin+Artemether/Lumefantrine (58.3%) and Erythromycin+Fluconazole (41.7%). Individuals aged ≥50 were more likely to experience serious DDIs (OR = 2.50, 95% CI: 1.80–3.50, $p < 0.001$), and there was a significant association between HIV stage and DDI severity ($\chi^2(9) = 145.32$, $p < 0.001$) with those in advanced HIV stages (stages 3 and 4) more likely to experience serious and contraindicated DDIs.

Conclusions: This study underscores the high prevalence of drug-drug interactions among individuals living with HIV/AIDS, particularly in older ones and those with advanced disease stages. These findings highlight the need for enhanced medication management strategies to improve safety and treatment outcomes.

EP0187

Early programmatic outcomes of 512 self-reported ART naïve people in the era of dolutegravir-based regimens

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Background: The test-and-treat era has shifted the focus of antiretroviral therapy (ART) programmes from access to care to increasing retention and achieving viral suppression. Despite this, few interventions focus on early treatment, a period when retention has been shown to predict future treatment success. We assessed early programmatic outcomes of participants in a longer adherence study.

Methods: We enrolled ART-naïve individuals >16 years, initiating dolutegravir-based ART at three Cape Town clinics, into a randomised adherence study assessing outcomes at 24 months. Per South African National ART Guidelines, viral load (VL) testing should be performed 3-6 months after initiation. We assessed early virological outcomes, retention, and adherence for all study participants, using routine clinic data. We included any VL performed within the first 8 months of treatment to allow for variance in timing. We calculated adherence up to 8 months as a medication possession ratio (MPR). We determined retention status as per clinic designation at 8 months with lost to follow-up (LTFU) defined as >12 weeks late for a visit and unconfirmed LTFU defined as 7 days to 12 weeks late.

Results: We enrolled 512 individuals with a median (IQR) age of 28 (23-34); 70.7% (N=362) were female. Sixty-four percent (N=328) of participants were retained in care at 8 months with 20.3% (N=104) LTFU, 6.3% (N=32) unconfirmed LTFU, and 4.5% (N=35) with no retention data. Twenty-five participants transferred to another clinic (N=24) or died (N=1) prior to the 6-month time point and were excluded from analyses.

Of the remaining 487 participants, 380 (78%) had a VL performed; 67.6% (N=329) were virally suppressed (<50 copies/mL), 5.7% (N=28) had low-level viraemia (LLV), and 4.7% (N=23) had a VL >1000 c/mL. Median MPR at 8 months was 87.5% for all participants and was inversely correlated with VL (96.1% for virally suppressed, 87.5% for LLV, 73.7% for VL>1000 c/mL, and 37.5% for those without a VL).

Conclusions: Early disengagement from care remains a concern even in the era of dolutegravir-based single tablet regimens, leading to viral suppression rates well below the 95-95-95 targets. ART programmes should focus retention efforts on the early stages of treatment.

EP0188

Safety and efficacy of four-weekly Albuvirtide plus Dolutegravir in virologically suppressed adults living with HIV-1: a pooled analysis based on two prospective studies

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Background: Two completed prospective single-arm studies have shown that four-weekly ABT combined with oral DTG in virologically suppressed adults living with HIV-1 has good safety and efficacy. In order to further verify its efficacy and safety, we combine the data of the participants from these two clinical trials for analysis.

Methods: Two studies were completed at the Guiyang Public Health Clinical Center in 2023 and 2024 respectively. Participants with HIV-1 RNA less than 50 copies/mL were switched to a treatment regimen of 640mg of four-weekly ABT plus DTG . The inclusion and exclusion criteria for both studies were the same, and the follow-up time was 24 weeks.

However, the study completed in 2023 used ABT administered by intravenous drip, while the study completed in 2024 used ABT administered by intravenous bolus. Both of the two studies evaluated the safety, pharmacokinetic profile of ABT in plasma, HIV-1 viral load and CD4+ T cell counts during treatment.

Results: A total of 19 participants were included in this pooled analysis, among which 10 participants received ABT by intravenous drip and 9 participants received ABT by intravenous bolus. All participants maintained virological suppression (HIV-1 RNA < 50 copies/mL) after 24 weeks of treatment.

After 24 weeks of treatment, the CD4 + T cell count increased by 91.74 ± 160.49 cells/μL from the baseline ($P = 0.023$). The ratio of CD4 to CD8 increased by 0.04 ± 0.07 from the baseline, and this result was statistically significant ($P = 0.031$). The steady-state trough concentrations

of ABT measured at the 12th week of administration in the two studies were 2.33 ± 0.87 µg/mL and 1.95 ± 0.93 µg/mL respectively, both of which were higher than the protein-adjusted concentration required for 90% viral inhibition (PA - IC90). All treatment-emergent adverse events (TEAEs) were mild and moderate, and no serious adverse events (SAE) were reported.

Conclusions: Whether ABT is administered by intravenous infusion or bolus injection, the drug concentration within the body remains above the effective concentration. Additionally, good safety and efficacy have been initially observed, warranting further validation of the clinical efficacy of this regimen.

EP0189

Early ART response in a Brazilian acute phase cohort: T cell subsets, activation, exhaustion, and reservoirs

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Background: Investigating immunological and viral reservoir dynamics in PBMC and GALT during acute HIV phase advances understanding of HIV persistence. Here we investigated the dynamics of T cells and HIV reservoirs after start ART in acute phase.

Methods: We evaluated the ART impact at 12 (M12) and 24 months (M24) on immunological, virological, and reservoir markers of 24 participants starting ART at Fiebig ≤ V (Baseline = D0) in a Brazilian cohort. We measured the frequency of T cell activation, exhaustion, memory subsets, Th17 and pTfh cells by flow cytometry and quantified total HIV DNA by qPCR in PBMC (n=24) and GALT (n=11).

Results: Most participants were cisgender MSM (95.9%), with median age of 27 years (IQR 25–36). At enrollment (D0), four participants used triple ART as PEP, and two were on oral PrEP and they exhibited higher CD4/CD8 ratios.

Higher CD4/CD8 ratios were also observed in participants classified as Fiebig I-III. 92% achieved viral suppression at M12 and 96% at M24. CD4 counts rose from 646 to 861 cells/mm³, and the CD4/CD8 ratio improved from 0.76 to 1.24 ($p<0.01$). HIV DNA in PBMCs decreased 4-fold by M12 and 61-fold by M24, with 50% undetectable by M24 ($p<0.01$). In GALT, undetectable HIV DNA increased from 27% at D0 to 75% at M12. HIV DNA in PBMCs and GALT correlated with plasma VL, while the CD4/CD8 ratio was inversely linked to PBMC reservoirs (rho= -0.66; $p<0.05$). Early ART reduced activated CD8+ T cells ($p<0.05$) but had minimal effects on CD4+ T cells or exhaustion markers. By M24, CD8+ TCM increased, and CD8+ TEF decreased ($p<0.01$), while Th17 and pTfh levels remained stable.

Conclusions: Early ART led to viral suppression, immune restoration and influence reservoir dynamics. The CD4/CD8 ratio was shown as key marker of early treatment success. A quarter of participants identified while starting PEP/PrEP draw attention to considering the window of acute phase according to vulnerability.

Recent PEP/PrEP use often excludes participants from clinical trials on bNAbs and therapeutic vaccines targeting viral reservoirs during acute phase of HIV - populations that may benefit from these strategies. Larger studies of including these populations are needed.

EP0190

Lenacapavir plus Cabotegravir real-world use cases from the National Clinician Consultation Center

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Background: The combination of long-acting injectables (LAIs) lenacapavir (LEN) + cabotegravir (CAB) +/- rilpivirine (RPV) could improve viral suppression in people with HIV (PWH) with adherence challenges to oral antiretroviral therapy (ART) or resistant virus. These combinations have not been studied in clinical trials and data are limited on their effectiveness and tolerability.

We report observations on the real-world use of these combinations from the National Clinician Consultation Center (NCCC), a tele-consultation resource for US-based clinicians that provides access to HIV experts.

Methods: Providers contacting NCCC from 12/1/2022–8/30/2024, whose consultations included consideration of ART modification were surveyed. Cases involving a combination of LEN subcutaneously twice-yearly +CAB (+/-RPV) intramuscularly every 4 or 8 weeks were identified and data were extracted from NCCC's secure database. Descriptive statistics and viral load outcomes were summarized.

Results: Among 76 eligible cases, 50 (66%) surveys were completed. From these 49, 14 (28%) had modified ART to any combination of LEN+CAB+/-RPV; this included 9 (64%) who changed to LEN+CAB/RPV, 1 (7%) to LEN+CAB, and 4 (29%) who did not indicate the LAI-ART regimen.

Reasons for changing to LEN+CAB+/-RPV included detectable viral load on oral ART (n=6, 43%), nonnucleoside reverse transcriptase inhibitor mutation(s) (3, 21%), inability/refusal to take oral ART (3, 21%), integrase strand transferase inhibitor mutation(s) (2, 14%), or continued viremia on CAB/RPV alone (2, 14%).

Among 10 cases with available follow-up information, all viral loads decreased to <500 copies/mL corresponding to a 3.88$\log_{10}$ copies/mL reduction in viral load within a mean of 80 days (SD=53). Half of these individuals experienced

injection-site reactions that were rated by the provider to be "not at all" to "slightly" problematic. There were no delayed/missed injections. All but one case noted a desire to continue this combination of LAI-ART.

Conclusions: In this case series of 10 PWH with virologic failure on oral ART, LEN+CAB+/-RPV was highly effective in achieving viral suppression. The most common reason for modification was detectable viral load on oral ART. These data and other case series of LEN+CAB support further research on LEN+CAB+/-RPV among PWH who are unable to adhere to oral ART or have a drug-resistant virus.

EP0191

Characteristics of non-suppressed recipients of care post implementation of Viremic Clinic as a differentiated service delivery model in Lusaka, Zambia (2020-2022)

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Background: For over a decade, Zambia has implemented differentiated service delivery models (DSD) to improve HIV clinical outcomes for recipients of care (ROCs). The Zambian Ministry of Health, supported by the Center for Infectious Disease Research in Zambia (CIDRZ), effectively implemented HIV viremic clinics as a DSD for non-suppressed (≥ 1000 copies/ml) ROCs. The DSD improved viral re-suppression (< 1000 copies/ml) from 55% (95% CI 50.0%, 59.8%) to 82% (74.4%, 88.1%). While the viremic DSD was successful, a better understanding of those who did not reach viral re-suppression despite DSD participation, is important to continue closing the gap toward achieving epidemic control in Zambia.

Description: We conducted a cohort analysis across 20 HIV clinics providing the DSD for non-suppressed ROCs in Lusaka, Zambia from October 2020 to September 2022. Our eligibility criteria included a non-suppressed viral load measure and completion of the enhanced adherence counseling (EAC) package. We evaluated association between non-suppression at six months of follow-up across sex, age, time on antiretroviral therapy (ART), and ART- regimen. We estimated adjusted risk of non-suppression using generalized linear model regression family (binomial) link (log).

Lessons learned: Of the 133 eligible ROCs, 62.4% (83/133) were female, the median age was 37 years old (interquartile range [IQR] 32, 46), 88.7% (118/133) were on a dolutegravir-based ART regimen, and the median time on ART was 5.2 years (IQR 2.4, 9.8 years). The proportion of ROCs with non-suppression at six months was 18% (24/133).

The median age for non-suppression was 35.5 years (IQR 27.5, 37.5) while for suppression it was 38 years (IQR 33, 47). Among ROCs aged ≤ 24 years, 38% (3/8) had non-suppression, followed by 22% (8/36) among those aged 25 – 34 years, while no ROCs aged ≥55 years had non-suppression. Increased age reduced risk of viral non-suppression while adjusting for sex, ART duration and ART-regimen (aRR 0.93; 95% CI 0.89, 0.97; p<0.001).

Males were at increased risk of viral non-suppression while adjusting for age, ART duration and ART-regimen (aRR 2.31; 95% CI 1.03, 5.17; p=0.042).

Conclusions/Next steps: To improve viral re-suppression, HIV viremic clinics should implement age-appropriate interventions, in consideration of ROC sex.

EP0192

Improving management of recipients of care with HIV viremia to optimize viral suppression in Zambia (2018 – 2022): a mixed methods evaluation

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Background: Enhanced adherence counselling (EAC) is conducted to assist non-suppressed recipients of care (ROCs) (viral load [VL] ≥1,000 copies/ml) six months of ART initiation to identify issues contributing to treatment failure. Zambia national guidelines highlight the importance of EAC and encourage differentiated service delivery (DSD) models to

optimize viral suppression. HIV viremic clinics (VCs) were introduced in October 2020 as a novel DSD model to provide EAC. We report early outcomes here.

Methods: We used a pre/post quasi-experimental design employing mixed methods to explore VC acceptability and evaluate viral suppression among ROCs. We included implementation data from ROCs with non-suppressed VLs in 20 health facilities offering EAC across 3 districts in Lusaka. during pre VC (October 2018-September 2020) and post VC (October 2020-September 2022) periods. We estimated risk ratios (RR) and 95% confidence intervals using generalized linear regression models.

We conducted in-depth interviews with ROCs, focus group discussions with health workers, and structured observations at 4 clinics after VC implementation. We used thematic analysis to understand facilitators and barriers at individual, service delivery, and health system levels.

Results: Data from 548 ROCs were analyzed. At 6 months, 81.9% (109/133) of ROCs who completed EAC post VC implementation were suppressed compared to 54.9% (228/415) ROCs who completed EAC pre VC implementation .There was a 31% and 39% increased likelihood of viral suppression for ROCs who completed EAC post VCs compared to those who completed EAC pre VCs at 6months (adjusted RR (aRR)=1.31 (95%CI:1.13, 1.52) and 12 months (aRR=1.39 (95%CI:1.21, 1.60), respectively.

Innovative ideas from ROCs to improve suppression included injectable/simplified ART formulations, longer duration drug refills, rapid and point-of-care VL testing, mental health services, community DSD models, and improved access to support groups.

Table1: Effect of delivering enhanced adherence counselling on viral suppression in Viremic Clinics in Lusaka, Zambia, (2018 – 2022).

Evaluation group	VL results (% of total)	Viral suppression n (% of row total)	Unadjusted risk ratio[1] (95% CI)	Adjusted risk ratio[2] (95% CI)
At 6 months	N =548	N=337		
EAC Pre-VC	415 (75.7)	228 (54.9)	ref	ref
EAC Post-VC	133 (24.3)	109 (81.9)	1.49 (1.32, 1.67)	1.31 (1.13, 1.52)
At 12 months	N= 322	N= 241		
EAC Pre-VC	221 (68.6)	147 (66.52)	ref	ref
EAC Post-VC	101 (31.4)	94 (93.1)	1.40 (1.26, 1.56)	1.39 (1.21, 1.60)

EAC Pre-VC – EAC before implementation of VCs; EAC Post-VC – EAC after implementation of VCs

*[1] Risk Ratios and 95%CIs were estimated using a generalized linear model, [2] Estimates were adjusted for sex, age, ART duration in ROC with high viral load and Drug regimen, EAC Enhanced Adherence Counselling, CI Confidence Interval, VL Viral load, * Statistically significant at α=5% significance level*

Conclusions: A viremic clinic model improved VL re-suppression for ROCs at risk of treatment failure in Zambia.

EP0193

Phase 2 once-weekly dose optimization for ulonivirine in combination with Islatravir 2 mg

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Background: Ulonivirine (ULO) is a non-nucleoside reverse transcriptase inhibitor (NNRTI) being investigated for once-weekly (QW) treatment of HIV-1 in combination with islatravir (ISL). Doses of 100, 200, and 400 mg ULO with 20 mg ISL QW were being investigated in Phase 2 before dosing was stopped due to ISL dose-dependent lymphocyte decreases observed across the ISL clinical development program. ULO data from Phase 1 and the previous Phase 2 studies were used to predict a safe and efficacious Phase 2 ULO dose to be combined with ISL 2 mg QW, which is the lower ISL dose used in ongoing clinical trials in combination with oral lenacapavir [NCT06630286; NCT06630299] and is expected to be safe and efficacious.

Methods: Reduction in viral load (measured as log10 plasma HIV-1 RNA copies/mL]) and ULO pharmacokinetics (PK) from a Phase 1b study where treatment-naïve participants living with HIV-1 received single oral doses of ULO (40, 80, or 600 mg) were used to establish a wild-type (WT) efficacy PK threshold.

Simulations using a ULO PopPK model developed with Phase 1 and 2 data were used to select doses providing exposures above the PK thresholds for WT and common NNRTI variants. Viral efficacy was explored through viral dynamics modeling (VDM). ULO and ISL QW regimens were simulated to predict the proportion of participants maintaining <50 copies/mL through 48 weeks.

Results: A ULO trough concentration target of 70 nM was determined based on PKPD analysis. Updated popPK simulations (n=1000) support 200 mg ULO QW achieves efficacious exposure to cover both WT and common NNRTI variants. VDM simulations (n=1000) with low doses of ISL (2 mg QW) demonstrated highly efficacious regimens for weekly ULO doses >100 mg ULO.

Conclusions: Dose selection factors weighed PK coverage and virological efficacy. Weekly 200 mg ULO in combination with ISL 2 mg was selected for Phase 2 for continued clinical development.

EP0194

Enhanced viral load coverage for optimal EMTCT outcomes, a retrospective cohort study at Aids Information Center - Kampala, Uganda

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Background: Effective Prevention of Mother-To-Child Transmission (PMTCT) of HIV is vital for achieving the global UNAIDS 95-95-95 targets by 2030, particularly the third 95, which aims for 95% of people on antiretroviral therapy (ART) to have a suppressed viral load. The Ministry of Health (MOH) recommends viral load (VL) testing every three months to monitor ART response.

At Aids Information Center (AIC)- Kampala center of excellence, we implemented a comprehensive strategy to ensure timely VL monitoring for pregnant and breastfeeding mothers living with HIV.

The purpose of this study was to evaluate the impact of timely VL coverage in PMTCT.

Methods: To fast-track VL coverage, we employed a multifaceted approach. Central to this were weekly appointment follow-ups and viral load line lists of mothers due for VL testing, ensuring regular monitoring and timely interventions.

Complementing appointments, a PMTCT audit tool identified and addressed necessary services, focusing on VL monitoring. Engagement of peer mothers provided continuous follow-ups and education, fostering support and

adherence. A retrospective cohort study analyzed the impact of these strategies on mothers who were active in EMTCT during Jan-March 2024.

Results: 115 PLHIV women active in PMTCT and all underwent timely VL testing, achieving comprehensive coverage of 100%. Remarkably, only three mothers had unsuppressed VL, yielding a suppression rate of 97%, surpassing the 95% threshold for both coverage and suppression. Such outcomes underscored strategy efficacy.

Conclusions: Our comprehensive approach significantly improved viral load monitoring frequency and consistency, ensuring mothers achieved viral suppression. Weekly follow-ups, audit tool use, line list reviews, and peer support were critical. These results affirm our commitment to UNAIDS targets and contribute to eliminating mother-to-child transmission. This model is replicable, offering insights for enhancing PMTCT programs.

EP0195

Capsid inhibition with lenacapavir in HIV-1 infection: real-life results from the French compassionate use program

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Background: Lenacapavir is a first-in-class capsid inhibitor that showed substantial antiviral activity in a phase 3 study among participants with multidrug-resistant HIV-1. We aimed to evaluate the efficacy and safety of lenacapavir with an optimised background regimen (OBR) received through the compassionate access in France.

Methods: Participants with previous multidrug failure were prospectively enrolled between January 1st, 2021 and December 31st, 2023. Following a 2-week oral lenacapavir, they received subcutaneous lenacapavir every W26 with an OBR. A retrospective efficacy analysis was performed with the primary end point as the percentage of participants with HIV-1 viral load (VL) < 50copies/ml at W26. Secondary endpoints were virological outcomes at end of follow up, emergence of lenacapavir resistance in case of virological failure and tolerance.

Results: Thirty-three participants (11/33 females) were analysed with a median (IQR) age of 56 (41-59) years. At lenacapavir initiation, median CD4 cells count was 330 (106-500) cells/µL with 11/27 (41%) participants having less than 200 cells per µL. VL was 2.54 (1.48-4.27) $\log_{10}$ copies/ml with 14/33 (42%) having VL below 50 copies/ml. OBR included mainly darunavir/r (n=13), dolutegravir (n=11), cabotegravir (n=10), fostemsavir (n=12), maraviroc (n=8), ibalizumab (n=7) and enfuvirtide (n=4). At W26 (W22 to W30), a VL < 50 copies/ml was reported in 66.7% (CI95% 48.2-82.0) of the participants with a mean increase in the CD4+ count of +92 cells/µL.

	Baseline VL<50 copies/mL N=14	Baseline VL≥50 copies/mL N=19
HIV-1-RNA at week 26 window (W22 to W30)		
<50 copies/mL	12/14(85.7%)	10/19(52.6%)
≥50 copies/mL or virological failure definition	1/14(7.1%)	7/19(36.8%)
No data	1/14(7.1%)	2/19(10.5%)
HIV-1-RNA at last follow-up visit (12,2 (IQR11,5-15,7) months)		
<50 copies/mL	13/14(92.9%)	14/19(73.7%)
≥50 copies/mL	1/14(7.1%)	5/19(26.3%)

HIV-1 capside sequencing was performed in 7 participants with virological failure and the Q67H mutation conferring resistance to lenacapavir was evidenced in one case. There were no grade 3 or 4 treatment-related adverse events (included two deaths). Injection site reactions were reported for 11/33 (33%) participants without treatment discontinuation.

Conclusions: In this real-life cohort of highly treatment-experienced HIV-1 participants, lenacapavir in combination with an OBR resulted in a high level of virological suppression up to 26 weeks, even increasing throughout the end of follow-up.

EP0196

Reasons for choosing oral-lead-in versus direct-to-injection when switching to long-acting antiretroviral therapy in East and Southern Africa

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Background: The benefits and risks of long-acting injectable (LAI) antiretroviral therapy are under investigation in ongoing clinical trials in Africa. Product labels for LAI cabotegravir (CAB) and rilpivirine (RPV) in USA and Europe include an optional one-month oral-lead-in (OLI) prior to initiating injections, despite data from high-income settings demostrating the saftey of direct-to-injection (DTI). We present the first data on reasons and factors associated with choice of OLI versus DTI in East and Southern Africa.

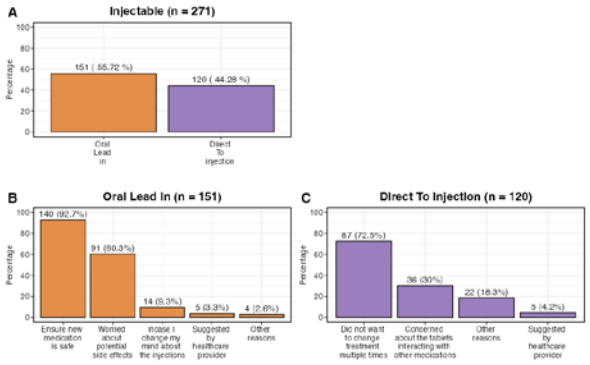
Methods: We analysed data from an ongoing trial (IMPALA, NCT05546242) that recruited adults living with HIV in Uganda, Kenya and South Africa. Eligible participants were randomised to either continue oral treatment or switch to two-monthly CAB+RPV LAI.

Participants randomised to LAI were given the option to choose between OLI or DTI, and reasons for their choice were documented. Participant characteristics were summarised by choice using descriptive statistics. Logistic regression was performed to identify factors associated with OLI preference.

Results: A total of 271 participants were randomised to LAI (01/Feb/2023–03/May/2024). The median age was 40.0 years (IQR:33.0–48.0), 62.4% (169/271) were female, 43.2% (117/271) were married/cohabiting, 45.4% (123/271) had secondary school education, 44.3% (120/271) were from Uganda, 29.9% (81/271) from Kenya and 25.8% (70/271) from South Africa. Most participants (55.7%, 151/271) chose OLI (Figure 1A), and the main reason given was to ensure medication safety (92.7%, 140/151) (Figure 1B).

The main reason for choosing DTI was to avoid multiple medication changes (72.5%, 87/120, Figure 1C).

Compared to participants in Uganda, participants in Kenya and South Africa had lower odds of choosing OLI (Adjusted odds ratio [AdjOR]: 0.33, 95% CI: 0.18–0.62, p-value=0.0006, and AdjOR: 0.08, 95% CI: 0.04–0.18, p-value<0.0001, respectively).



Conclusions: Preference for OLI versus DTI varied by country. Providing reassurance about safety and tolerability of CAB+RPV could increase DTI preference and simplify implementation in a public health setting.

EP0197

Real-world virologic outcomes of high BMI on CAB+RPV LA-I: a systematic review

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Background: Multivariable analysis of pooled data from the ATLAS, FLAIR and ATLAS-2M RCTs associated the risk of virological failure (VF) with the presence of ≥2 baseline factors (highest to lowest predictive value): rilpivirine (RPV) resistance-associated mutations, subtype A1/A6 and/or body mass index (BMI) ≥30 kg/m^2. Pooled results from phase 3/3b studies of cabotegravir (CAB)+RPV long-acting injectable (LA-I) trials have demonstrated efficacy regardless of baseline BMI category. With growing numbers of observational cohorts (OCs) reporting clinical outcomes during routine clinical care, evaluating the impact of risk factors such as BMI is warranted.

We present an evidence synthesis of the VF outcomes in OCs by baseline BMI.

Methods: We performed a systematic review of electronic databases and HIV-related congresses from January 2020–July 2024 for OCs N≥10 evaluating CAB+RPV LA-I (Figure 1). We summarised all identified OCs reporting patient-level data on VF outcomes by baseline BMI status (≥30 or <30 kg/m^2).

The presence of combined baseline risk factors identified in the multivariable analysis is not accounted for in this summary. Data were summarised descriptively, as populations; VF definitions and follow-up times varied across studies.

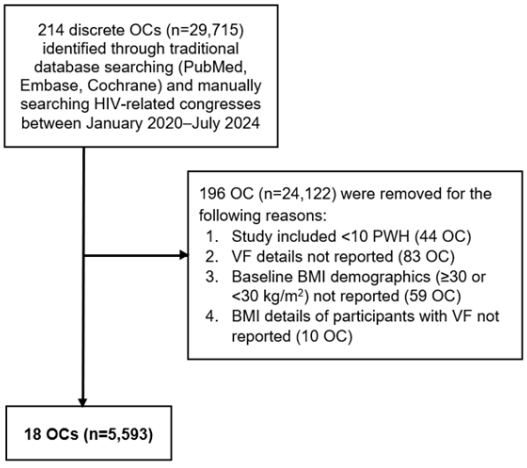


Figure 1. Flow diagram of search methodology.

Results: We identified 18 OCs which included 5,593 PWH; duration of follow up was ~3–54 months. Overall, BMI ≥30 kg/m^2 was reported for 1,248/5,593 (22.3%; range 0.9–51.0%)

participants. VF was reported for 66/5,593 (1.2%; range 0-2.5%) participants. In participants with BMI ≥30 kg/m^2, VF was reported for 17/1,248 (1.4%; range 0-60.0%) vs 49/4,264 (1.1%; range 0-40%) in those with BMI <30 kg/m^2.

Conclusions: In this evidence synthesis of OCs, VF rates were similar in those with and without high BMI; this is consistent with clinical trial data. However, ongoing monitoring of the relationship between BMI and VF is warranted.

EP0198

Crushing barriers beyond the pill: when people with HIV cannot swallow – a review

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Background: Continuous lifetime treatment for HIV is essential to control the disease, prevent resistance and stop transmission. However, there exist scenarios where people with HIV (PLH) cannot swallow, and the only available form of ART is the pill. This causes treatment interruptions, especially that injectable antiretrovirals have specific indications, are coupled with oral medication or are challenged by cost and availability. Furthermore, there is minimal data to support administering oral antiretrovirals in alternative methods, especially in comatose, demented or intubated individuals.

Methods: We conducted this review in accordance with PRISMA guidelines to explore all the published data from 2010 to 2023 about alternative methods of administration of the antiretroviral pills in PLH who cannot swallow. (Figure 1)

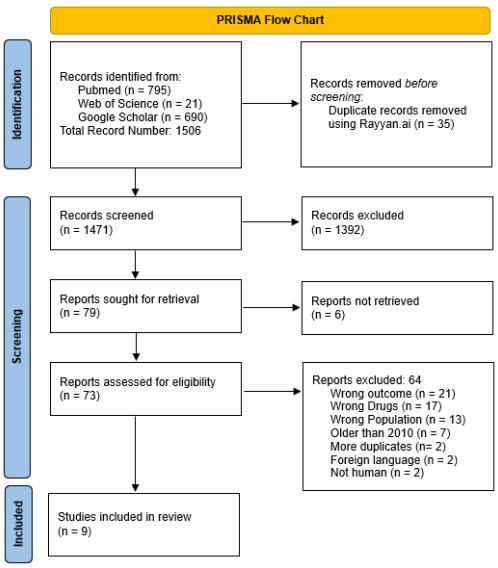


Figure 1: PRISMA Flowchart of this Review.

Results: Many of the available antiretroviral tablets were crushed, emulsified, dissolved or sprinkled over food in various preparations that can be given via enteral feeding tubes, whether nasogastric (NGT), percutaneous endoscopic gastrostomy (PEG) or jejunostomy tubes (JT). The review discusses these findings Table 1.

Class of ART	Drugs	Alternative Administration
PIs	Atazanavir, Indinavir, Saquinavir*	Capsules opened and mixed with food *Gelatin capsules heated and mixed with juice
	Ritonavir, Nelfinavir, Lopinavir/Ritonavir*, Fosamprenavir**, Darunavir+	Crushed *Significantly less bioavailability ** Only reported in PEG +Only reported in NGT
INSTIs	Raltegravir, Dolutegravir*	Crushed and mixed with water. *Use immediately. Also mixed with food.
NNRTI	Etravirine, Delavirdine (100mg tablets only)	Crushed and used with water
	Efavirenz, Rilpivrine*	Crushed. Water insoluble. Should not feed for 2 hours after administration. *Increase dose from 25 to 50mg if crushed. PEG (required acidic environments)
NRTIs	Abacavir, Lamivudine, Stavudine*	Crushed. Use immediately. Mixed with foods *Described in NGT and PEG
	Tenofovir	Tablets: dissolved in 100 ml of water or juice Powder: mixed with food and taken immediately. Clumps if mixed with liquids.
	Didanosine	Powder mixed with antacids; unstable in acid. Used in NGT
	Abacavir/lamivudine, Abacavir/Lamivudine/Zidovudine	
	Lamivudine/Zidovudine, Emtricitabine/Tenofovir	
	Bictegravir/emtricitabine/tenofovir alafenamide	
Combinations	Dolutegravir/abacavir/lamivudine	Viral suppression achieved with crushing and administering with water. *Bioequivalence/pharmacokinetics also studied and achieved. ** Water insoluble. To be taken with a meal of >533 calories
	Elvitegravir/cobicistat/emtricitabine/tenofovir*	
	Darunavir/cobicistat/emtricitabine/tenofovir alafenamide*	
	Rilpivirine/Emtricitabine/Tenofovir**	

Table 1: Summary of Findings Regarding Alternative Antiretroviral Formulations

Conclusions: This review offers an evidence-based backup on the use of ART pills in an alternative form when they are the only available options. This encourages further research on the use of crushed pills in HIV treatment when conscious swallowing is not an option.

EP0199

Long-acting ART (LEN/CAB and CAB/RPV) among viremic persons living with HIV

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Background: Cabotegravir/rilpivirine (CAB/RPV) is approved for treatment of virologically suppressed HIV patients. There is growing interest in its use among those with viremia (VL >200 copies/mL). In cases of drug resistance, combination, fully active injectable therapy—i.e. lenacapavir (LEN) with CAB +/- RPV—is also of interest, but has not been formally studied.

Methods: We identified 27 viremic patients (VL >200copies/mL) interested in LAI-ART. They were initiated on off-label CAB/RPV or LEN/CAB +/- RPV between 2022 and 2024. Clinical factors of interest were last 3 viral loads, HIV risk factors, CD4 count, mental health diagnoses, substance use, resistance, opportunistic infections, hospitalizations, engagement, and reasons for switching. Outcomes were viral load suppression (VL <200 copies/mL), time to suppression, and CD4 count.

Clinical characteristics	n=27
CD4 (mean)	267
AIDS diagnosis (CD4<200)	15 (56%)
OI diagnosis in past year	10 (37%)
Recent hospitalizations?	11 (41%)
Mental health diagnosis	19 (70%)
Substance use history (recent)	12 (44%)

Treatment	VL at time of injection (copies/mL)	VL post-treatment (most recent)	Time to suppression (in weeks)	Baseline NRTI or INSTI Mutations	CD4 count pre-treatment (cells/mm3)	Most recent CD4 count
CAB 400/600mg QM+LEN Q6M	1,070,000	114	8	Y181C	102	N/A
	37,900	<20	10.9	E92Q	328	434
CAB 400mg QM+LEN Q6M	1,480	<20	12	Y181C	126	558
	18,300	<20	3.7	Y181I	343	515
CAB 600mgQ2M +LEN Q6M	266,000	56	4	E138Q, E157Q	3	422
	3,260	28	4	V108I, E138Q, Y181C	1	352
	121	<20	7.9	E138A, E157Q	58	68
CAB/RPV 400/600 QM	2,130	<20	18.6	K103N,E138A	346	497
	405,000	<20	5.3	none	14	160
	61,200	25	4.6	T97A, E157Q	404	540
	26,400	<20	4	none	512	723
	<20	<20	3.7	V90I	21	507
	7,720	<20	8.7	none	656	844
	<20	<20	8.7	V197D	528	655
	13,600	<20	4	K103N, V108I, Y318F	335	N/A
	791	78	1.9	V197D	18	34
	7,850	N/A	N/A	None	131	N/A
CAB/RPV 600/900 Q2M	58,600	<20	14.3	none	162	213
	56,200	<20	8	no genotype	179	348
	1,820	<20	3.7	no genotype	1005	N/A
	1,930	<20	6.7	None	27	43
	1,140	<20	1.1	Y318F	8	402
	489	<20	1	M184V	115	142
	8,270	<20	4.3	K103S	587	847
	386	<20	10.3	none	241	474
	<20	<20	5.1	none	160	409
	3,480	<20	12.9	none	1011	1041

Results: 20 patients received CAB/RPV and 7 received combination LEN/CAB +/-RPV. 52% were male, 48% female and over half were younger than 35. 67% were Black and 30% Hispanic. The most common HIV risk factor was perinatal infection (41%). 56% had AIDS (CD4 <200 cells/mm3).

The most common resistance-associated mutations were Y181C, K103N, and E138Q. Most fell within a pre-treatment VL range of 1,000-50,000 copies/mL; values reached 2.8 million. Of those with ≥1 VL collected after initiating LAI-ART, 100% (26/26) achieved suppression. 1 patient expired before a VL was collected. Median time to suppression was 5.1 weeks. Of those on LEN/CAB +/- RPV, 100% (7/7) suppressed. 24/27 remain on LAI-ART and remain undetectable. 2 expired and one was lost to follow-up.

Conclusions: We saw high rates of viral suppression with CAB/RPV and LEN/CAB +/- RPV among viremic patients and showed they can be effective options, including in cases of resistance.

EP0200

Pregnancy and health outcomes among women living with HIV on different antiretroviral therapy in Malawi: a cohort study

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Background: The Option B+ strategy, introduced in Malawi in July 2011, provides lifelong antiretroviral therapy (ART) to pregnant and breastfeeding women with HIV. Despite successes, some women were failing treatment and some default from ART which may affect pregnancy or health outcomes.

We compared pregnancy and health outcomes between pregnant women who were failing treatment and were switched to second-line therapy during pregnancy and those who defaulted from care and resumed first-line therapy during pregnancy.

Methods: The prospective cohort study enrolled pregnant women at Bwaila Hospital and Area 18 clinic in Lilongwe, Malawi, from 2015 to 2018, with two years follow-up. Demographic characteristics, pregnancy outcomes, and clinical and laboratory adverse events were summarized using proportions. Chi-square or Fisher's exact tests were used to compare demographic characteristics between women in Cohort B and Cohort C. We compared the risk of preterm and low birthweight between infants delivered in these cohorts.

Results: A total of 321 pregnant women were enrolled: 171 in Cohort B and 150 in Cohort C. The median gestational age at delivery was 40 weeks (IQR: 38-41), and the median birth weight was 3.00 kg (IQR: 2.60-3.32).

Women in Cohort B were older (median age 31 vs. 26 years, $p < 0.001$), had more multiparous women (74% vs. 60%, $p = 0.03$), and a higher percentage in WHO stages ≥2 (19% vs. 10%, $p = 0.008$).

The risk of preterm delivery (RR = 1.11; 95% CI: 0.51-2.40) and low birthweight (RR = 0.92; 95% CI: 0.46-1.85) did not differ significantly between cohorts. Grade ≥ 3 clinical adverse events were reported in 26 women from Cohort B and 22 from Cohort C. Cohort B had more grade ≥ 2 laboratory events, including elevated bilirubin (43%), while low hemoglobin levels were observed in both cohorts (Cohort B: 32%, Cohort C: 51%).

Conclusions: Women in both cohorts had similar pregnancy outcomes, but Cohort B experienced a higher frequency of Atazanavir and Zidovudine- associated clinical and laboratory events compared to those in Cohort C.

These results emphasize importance of consistent ART management and monitoring to improve maternal and neonatal health outcomes.

EP0201

Prevalence and durability of viral suppression among adults living with HIV transitioned from boosted protease inhibitors-based to dolutegravir-based regimens as second-line therapy from 2019 to 2021 in Tajikistan

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Background: WHO recommends dolutegravir-based regimens (DBR) as preferred second-line therapy for those failing efavirenz-based regimens (EBRs) but there was no guidance on whether those who failed EBR and were switched to boosted protease inhibitor-based therapy (bPIBR) could be transitioned to DBRs. In Tajikistan, DBRs, primarily tenofovir/lamivudine/dolutegravir (TLD), became available in 2019. People living with HIV (PLHIV) on EBR and second-line bPIBRs were transitioned to TLD. We assessed durable viral suppression (DVS) among PLHIV transitioned from second-line bPIBRs to TLD.
Methods: Routine clinical and laboratory data were abstracted from electronic medical records of PLHIV ≥15 years, who were transitioned to TLD after bPIBRs from 2019 to 2020; had ≥3 viral load (VL) results recorded ≥6 months after TLD initiation. Viral suppression was defined as VL ≤1000 copies/ml; PLHIV having all (≥3) VLs suppressed ≥6 months after TLD initiation were considered to have DVS.
Results: Among 89 PLHIV ≥15 years transitioned from second-line bPIBRs to TLD, 80 had ≥3 VLs after TLD initiation; 76% (61/80) were suppressed on bPIBR. Median time on ART before TLD was 5 years (IQR:3-6) and on bPIBRs 1 year (IQR:1-2); 63% used lopinavir- and 35% atazanavir-based regimens; tenofovir was part of backbone regimen for 46% of PLHIV. After initiating TLD, 95% (76/80) were suppressed at first VL test, of which 92% (70/76) maintained DVS throughout follow-up (median=4 years: IQR:4-5). Among those suppressed before TLD initiation (n=61), 98% (60/61) remained suppressed at first VL and 93% of them (56/60) maintained DVS on subsequent VL tests (median 4 tests, IQR:3-5; median follow-up 4 years, IQR: 4-5). Among those not suppressed before TLD (n=19), 84% (16/19) achieved suppression on TLD at first VL (median 90 days, IQR:57-120) and 88% of them (14/16) maintained DVS throughout follow-up (median 4 tests, IQR:3-6; median follow up 4 years, IQR:3-5).
Conclusions: Transitioning from second-line bPIBRs to TLD resulted in high rates of DVS among most PLHIV, including those previously suppressed and unsuppressed on bPIBRs. Our results suggest that transition from second-line bPIBR to DBRs may be an effective practice. Further investigation is needed to identify reasons for non-suppression among some PLHIV transitioned from second-line bPIBRs to DBRs.

Antiretroviral therapies and clinical issues in adolescents and young adults

EP0202

Pilot testing of a smartphone-based self-management support programme for adolescents living with HIV in the Western Cape, South Africa

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Background: Adolescents living with HIV (ALHIV) represent a vulnerable population requiring enhanced healthcare support, as they face heightened risks of poor health outcomes stemming from a complex interplay of individual, environmental, and health system challenges. The Supporting Adolescents to be Resilient and Thrive (SSMART) programme is a 12-week smartphone-based intervention to enhance self-management among ALHIV.
This pilot study assessed the feasibility and acceptability of the programme among ALHIV aged 15–21 years attending antiretroviral therapy (ART) services at a primary care clinic in the Cape Metropole, Western Cape, South Africa.
Methods: Thirteen purposively selected ALHIV were provided smartphones, monthly data, and access to the SSMART app from September to December 2024. The intervention included individual activities (quizzes, videos), five peer group sessions, and three individual coaching sessions, delivered by two peer leaders and two lay coaches (all under 30 years old and living with HIV) and supported by the project team. Pre-implementation focus groups with participants (n=17) explored app usability and navigation, while post-implementation focus groups (n=12) evaluated user experiences.
Results: Participants engaged daily with the app, reporting high satisfaction with quizzes, medication adherence reminders, and peer interaction. Participants also noted how the quizzes improved their HIV and self-management knowledge, and the medication adherence reminders served as a tool to remain adherent. However, the language complexity of some activities posed a barrier, with participants recommending simpler language and more visual content. Both participants and facilitators reported

that the app improved the self-efficacy and self-esteem of ALHIV. Implementation challenges included limited communication via the app due to technological issues (e.g., lack of push notifications) and difficulty scheduling sessions, resulting in only some planned peer and coaching sessions being conducted. Facilitators expressed a need for more training. Despite these challenges, participants indicated they would engage with the programme even without the provision of smartphones and data.

Conclusions: The SSMART programme shows potential for supporting self-management among ALHIV. Content and delivery require refinement to improve health literacy and flexibility of delivery, and technological enhancements are needed to address communication barriers.

EP0203

The relationship of stigma on self-efficacy among adolescents and young adults with HIV enrolled in the Sauti ya Vijana Clinical Trial in Tanzania

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Background: Many adolescents and young adults with HIV (AYAWH) experience HIV-related stigma that may impact self-efficacy. Self-efficacy is important for AYAWH as it influences their ability to manage their HIV care, adhere to antiretroviral therapy (ART) and ultimately have viral suppression.

We hypothesized that increased stigma may be associated with lower self-efficacy and that self-esteem may mediate this effect.

Methods: Baseline data from AYAWH enrolled in the Sauti ya Vijana (SYV) randomized control trial between March-2021 and July-2024 were analyzed. SYV is a mental health intervention, participants were 10-24 years, on ART for ≥ 6 months and were aware of their HIV diagnosis. Measures included Coping Self-Efficacy (CSE) (range 0-130) (higher score is better CSE). Other were HIV stigma (range 12-48), Rosenberg self-esteem (range 0-30), adherence (% with good adherence), HIV RNA (suppression was <400 copies/mL).

Multivariate analysis was adjusted for age, sex, stigma, adherence, and HIV RNA. The mediation of self-esteem on the relationship between stigma and CSE was explored using R software.

Results: Participants (N=690) had a mean age of 17.5 years (SD = 2.5); 50% were female. Mean scores included HIV-related stigma 26.3/40 (sd = 4.5); CSE 79/130 (sd=25); self-esteem 21.2/30 (3.2); good adherence 77% (sd=17%) and HIV RNA <400 copies/mL (87%). Older age, viral suppression, and stigma were significantly associated with self-efficacy (Table 1).

Mediation analysis suggests that the association between stigma and CSE may operate through self-esteem (Table 2).

Variable	N (%) or Mean (SD)[1]	Unadjusted Model Estimate (95% CI)	Adjusted Model Estimate (95% CI)
Age	17.50 (2.47)	1.6 (0.87, 2.4)	1.7 (0.94, 2.4)
Biological sex Male Female	 343 (50%) 347 (50%)	 Ref - 0.31 (14, 3.4)	 Ref - 0.27 (- 3.9,3.4)
Self-reported adherence	77 (17)	- 0.038 (- 0.14, 0.069)	- 0.017 (- 0.18, 0.034)
Viral suppression Not suppressed (≥ 400) Suppressed (< 400)	 92 (13%) 598 (87%)	 Ref 6.8 (1.3, 12)	 Ref 6.8 (1.5, 12)
Total stigma score	26.3 (4.5)	- 0.89 (-1.3, -0.47)	- 0.92 (- 1.3, - 0.51)

Table 1: Estimates from regression models (unadjusted and adjusted).

*[1]Mean (SD); n (%); *HIV RNA includes samples from trial enrollment with missing results supplemented from the nearest standard of care result.*

Mediator	Effect of Stigma	Unadjusted	Adjusted
Self esteem	Total effect	-0.89	-0.92
Self esteem	Direct effect	-0.19	-0.27
Self esteem	Indirect effect	-0.70	-0.65

Table 2: Mediators of the association of stigma and self-efficacy.

Conclusions: Interventions aimed at reducing stigma and improving self-esteem may improve coping and self-efficacy. Interventions addressing stigma reduction and improving self-esteem may improve CSE and in turn HIV outcomes.

EP0204

Factors influencing viral non-suppression among adolescent and young people living with HIV in Lagos State, Nigeria; a focus on treatment-related factors

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Background: Viral load suppression (VLS) is a key indicator of effective HIV treatment in adolescents and young people living with HIV (AYPLWH). Despite better access to antiretroviral therapy (ART) and related care, 80% of AYPLWH (aged 10-24 years) on ART in Lagos State remain virally unsuppressed (HIV RNA>1000copies/ml), reflecting poor treatment outcomes. This study aims to examine the treatment-related factors influencing VL non-suppression among AYPLWH in Lagos State, Nigeria.

Methods: This descriptive cross-sectional study involved 280 AYPLWH on highly active antiretroviral therapy (HAART) from four ART clinics in Lagos State. Only AYPLWH

with valid viral load results (most recent result used for clinical decision) were included in the analysis. Data were extracted from clinical records, focusing on treatment-related variables including VLS, duration on ART, ART regimen, tuberculosis preventive therapy (TPT) use, multi-month dispensing (MMD), body mass index (BMI), and CD4 count.

Bivariate (Chi-square) and multivariate (binary logistic regression) analyses were used to assess relationships between these variables and VLS, with significance set at $p<0.05$. Ethical approval was granted by the Lagos University Teaching Hospital Health Research Ethics Committee (ADM/DSCST/HREC/APP/6321) and the Lagos State Health Service Commission (LSHSC/2222/VOLIII/73).

Results: The mean age of the AYPLWH participants was 19.17 ± 3.35 years, with 52% being female. Nearly 18% of the AYPLWH had been on ART for more than 10 years. The majority were virally suppressed (84%), on a first-line ART regimen (98%), had completed TPT (95%), had a normal BMI (18.5–24.9 kg/m²) (81%), and had a normal CD4 count (>200 cells/mm³) (94%). In bivariate analysis, the duration on ART ($\chi^2 = 9.22$, $p = 0.027$) and MMD ($\chi^2 = 29.86$, $p < 0.00001$) were significantly associated with VLS.

Multivariate analysis showed that AYPLWH with less than 2 years on ART (adjusted odds ratio [aOR] = 2.98, $p = 0.042$) and those with less than 3 months of MMD (aOR = 14.27, $p < 0.00001$) were significant predictors of VL non-suppression.

Conclusions: Enhancing adherence counselling and providing targeted care for AYPLWH who are new on ART, while ensuring a minimum of 3 months of drug supply, will positively impact and improve VLS among AYPLWH.

EP0205

Extended travel-time and clinic wait-time as non-clinical predictors of viral non-suppression in adolescent and young-persons on ART in Lagos State, Nigeria

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Background: The AIDS Virus Education Research Trust (AVERT) reported a decline in Nigeria's national viral load suppression (VLS) rate, from 81% in the 2018 National AIDS Indicator and Impact Survey (NAIIS) to 72% in 2020. There is limited information on the non-clinical factors influencing this poor VLS, particularly among adolescents and young persons (AYP). This study aims to address this gap.

Methods: This study was conducted with 280 AYP (aged 10-24 years) receiving antiretroviral therapy (ART) in selected ART clinics in Lagos State. Only consenting clients with valid viral load results were included.

Data on sociodemographic and psychosocial characteristics, transport costs, travel-time to the facility, and clinic wait-time were collected using a validated semi-structured questionnaire. Viral load data was obtained from facility electronic medical records. Bivariate (Chi-square) and multivariate (binary logistic regression) analyses were used to assess the relationships between these factors and viral load non-suppression (HIV RNA >1000 copies/ml), with significance set at $p<0.05$. Ethical approval was granted by the Lagos University Teaching Hospital Health Research Ethics Committee (ADM/DSCST/HREC/APP/6321) and the Lagos State Health Service Commission (LSHSC/2222/VOLIII/73).

Results: About half of the AYP were females (52%), with 50% aged 20-24 years, and 76% were still in secondary school. Most (94%) had treatment support partners, primarily parents (88%), and were members of support groups (87%). About half (48%) spent ≤1000 naira (~$1 at the time of data collection) on transport, while 39% and 48% reported travel-time and clinic wait-time exceeding 2 hours, respectively. The majority (84%) had high VLS. At bivariate analysis, only travel-time ($\chi^2 = 10.21$, $p = 0.006$) and clinic wait-time ($\chi^2 = 8.18$, $p = 0.017$) had significant association with viral load non-suppression.

Multivariate analysis revealed that AYP who spent ≤1 hour as – travel-time to the clinic (adjusted odds ratio [aOR] = 0.34, $p = 0.002$), and clinic wait times (aOR = 0.457, $p = 0.023$) were 3 times and 2 times less likely, respectively, to experience viral non-suppression.

Conclusions: This study posits that – reducing the distance to clinics and wait times, through appropriate differentiated services, for AYP attending ART clinics would improve VLS.

EP0206

Clinical and psychosocial factors associated with depression among adolescents and young people living with HIV in Rwanda (Aged 10-24) in 2024

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Background: Depression is a major mental health issue among adolescents and young people living with HIV (AYPLHIV), affecting adherence to treatment and overall health outcomes. Identifying the clinical factors associated with depression in this population is crucial for developing effective mental health interventions.

This study aimed to identify HIV-related clinical factors and experiences associated with depression among AYPLHIV in Rwanda.

Methods: This cross-sectional study was conducted in Rwanda in 2024, involving 457 adolescents and young people aged 10–24 years living with HIV. Data were collected using structured interviews, focusing on clinical factors such as HIV transmission mode, ART treatment history, caregiver support, and trauma exposure (including forced sex and physical abuse). Depression was assessed using a Patient Health Questionnaire-9 (PHQ-9) for depression. Statistical analyses included bivariate and multivariable logistic regression to determine the clinical factors associated with depression.

Results: The study identified several clinical factors associated with depression among AYPLHIV. Female gender was associated with higher odds of depression compared to male participants (Adjusted OR=0.482, p=0.002). Younger adults aged 20-24 years were more likely to experience depression than those aged 10-14 years (Adjusted OR=2.785, p=0.064).

A history of orphanhood, particularly losing both parents, was strongly associated with depression (Adjusted OR=2.622, p=0.003). Living with both parents was found to be protective, with those in such households exhibiting lower odds of depression (Adjusted OR=0.308, p=0.001).

Trauma exposure was significantly linked to depression, with individuals who had experienced forced sex (Adjusted OR=2.072, p=0.035) or physical abuse (Adjusted OR=2.853, p=0.009) showing higher odds of depression.

Additionally, disclosure of HIV status was also significantly associated with depression (Adjusted OR=1.774, p=0.007). People with unknown viral load were at a higher risk of presenting with depression than those with known viral load (Adjusted OR=3.214, 95%CI:1.404-7.359, p=0.006).

Conclusions: The study underscores the importance of psychosocial factors such as gender, caregiver involvement, trauma exposure, and HIV-related history in the mental health of AYPLHIV in Rwanda.

These findings call for targeted mental health interventions that consider trauma and caregiver support to improve both mental health outcomes and HIV care in this population.

EP0207

Impact of significant depression symptoms (SDS) on adherence to Tenofovir-based Antiretroviral therapy (ART) in young women living with HIV (WLWH) in Kampala

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Background: After nearly 40 years of the HIV pandemic, Africa remains disproportionately affected, with women accounting for 54% of the cases. Addressing depression and its impact on ART adherence is crucial to ending the pandemic by 2030.

This study aimed to assess the longitudinal patterns of significant depression symptoms (SDS) and their association with ART adherence among 18–35-year-old women living with HIV (WLWH) on TDF-based regimens in Kampala. We hypothesized an association between SDS patterns and adherence.

Methods: A retrospective cohort study that analyzed secondary data from the BONECARE study files at MUJHU Care in Kampala was conducted. we involved 390 WLWH aged 18 to 35 years, recruited from 11 health facilities in Kampala between 2016 and 2017 and followed until 2020. SDS were scored using the Hopkins Symptom Checklist (HSCL-15) while ART adherence was measured with a 7-day self-report questionnaire. SDS was categorized as significant (HSCL-15 ≥ 1.75) or sub-clinical (< 1.75). The longitudinal patterns of SDS were modeled using mixed-effects logistic regression, with bivariate and multivariable analyses assessing the relationship between SDS and ART adherence over 24 months. Statistical significance was set at p<0.05.

Results: The graph shows higher ART adherence among participants without SDS, with steady improvement over time peaking at month 24. SDS had no statistically significant effect on baseline adherence (p=0.126) or adherence changes over time (p=0.61).

However, adherence improved significantly over time regardless of SDS status (p=0.004). Age and alcohol-use independently influenced baseline adherence.

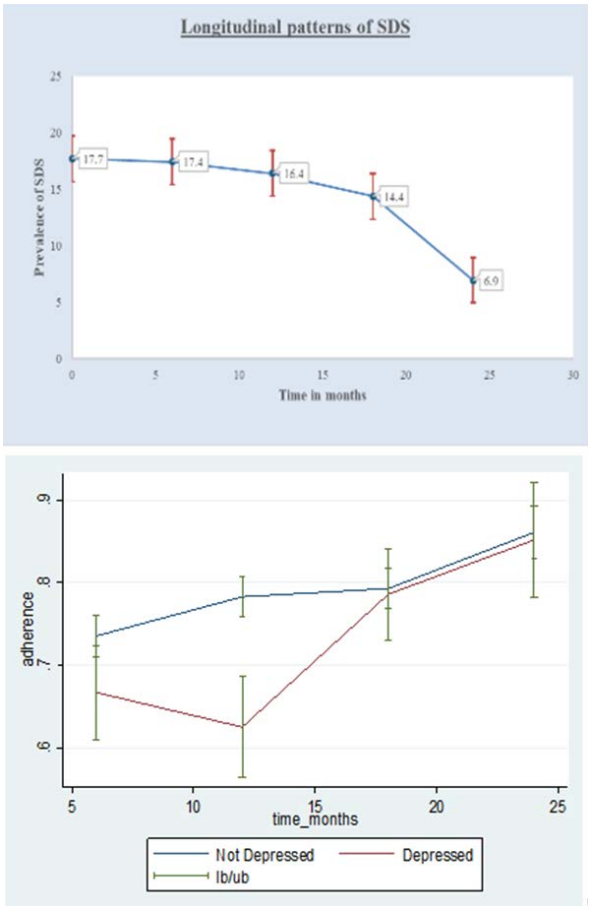


Figure 1: Longitudinal pattern of SDS and ART adherence grouped according to the presence or absence of SDS

Conclusions: In conclusion, SDS had no impact on ART adherence at baseline or over time. Conversely, ART adherence significantly improved over time regardless of SDS status. Alongside managing depression, monitoring ART adherence in people living with HIV is crucial.

EP0208

Diving into the life of Cameroonian adolescents living with HIV/AIDS and their interest for long-acting antiretroviral treatment: evidence from the CIPHER-ADOLA study

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Background: Long-acting injectable antiretroviral therapy (LAI-ART) might be a potential game-changer in the treatment of adolescents living with HIV (ALWH). We aimed at delineating the profile of Cameroonian ALWH regarding their interest in receiving LAI-ART.

Methods: A cross-sectional study performed among participants of the CIPHER-ADOLA cohort which enrolled ALWH 10-19 years receiving tenofovir/lamivudine/dolutegravir (TLD) in four paediatric HIV treatment centres in Cameroon. Data was collected using medical records and questionnaires. Uni-multivariate logistic regression was performed to identify factors associated with interest of ALWH to LAI-ART.

Results: We enrolled 236 ALWH (male: 51.7%; median [IQR] age: 15 [13-17] years) mainly treated in urban-settings (84.3%), with a median-BMI of 19.3 (17.3-21.8); overweight: 10.6%; and underweight: 7.2%. Majority lived with biological parents [60.6%] and HIV status partially/fully disclosed in 76.7%; stigmatised and non-injectable drug-users represented 3.0% and 5.9%, respectively.

About 77.5% were in a multi-month ARV-dispensing differentiated service delivery model (M-DSD) and only 34.3% self-reported no missed ARV-dose since 30-days. About 30.9% were knowledgeable on LAI-ART; and 73.1%, 15.8% and 11.1% had respectively no-, moderate- and high-fear of injection/needle.

About 71.6% and 72.5% had a VL<50 copies/mL and CD4≥500 cells/mm^3 respectively. Globally, 92.4% (n=218) were LAI-ART interested. Compared to non-LAI-ART interested ALWH, they had a higher median-age (15 [13-17]) vs. 13 [11-15], p=0.010); higher BMI (19.4 [17.4-21.9] vs. 17.9 [16.7-19.3], p=0.041), mainly living with biological-parents (62.4% vs. 38.9%, p=0.096), mainly non-injection/needle fearing (74.5% vs. 55.6%, p=0.058), and knowledgeable on LAI-ART (32.6% vs. 11.1%, p=0.075).

Sex, immuno-virological status, ART-adherence and living in urban-settings were not significantly associated with interest in LAI-ART. In multivariate model, only injection/needle fear independently predicted LAI-ART interest.

Compared to ALWH with high fear, those without fear were about four-folds more interested (OR [95% CI]: 4.243 [1.089-16.527], p=0.037). Finally, concerning the preference between LAI-ART and M-DSD, 74.8%, 20.9% and 4.3% respectively preferred LAI-ART, M-DSD and no preference.

Conclusions: Cameroonian ALWH have many challenges to overcome during their therapeutic pathway. Despite their low knowledge of LAI-ART, they express a high interest in LAI-ART, particularly predicted by the absence of injections/needles fear. Providing data on their eligibility to this new strategy is essential to guide decision-making.

EP0209

Virological outcomes of adolescents switched to dolutegravir based regimens at Botswana-Baylor Children's Clinical Centre of Excellence (BBCCCOE), 2016 to 2023

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Background: To address the unique challenges of adolescents adhering to anti-retroviral treatment (ART) and remaining in care, the BBCCCOE provides comprehensive HIV services to adolescents, including broad social and mental health support. As an alternative to more toxic

and difficult to administer ART, Dolutegravir (DTG) based regimens (DBRs) were introduced in ART-experienced adolescents, beginning in 2016. We now report real-world virological outcomes of treatment-experienced adolescents, switched to a DBR.

Methods: The BBCCCOE is a public-private facility located at Princess Marina Hospital in urban Gaborone. Retrospective data on 499 adolescents (≥13-<18 years) consecutively switched from 1st or 2nd line ART to DBRs, were drawn from the BBCCCOE Electronic Medical Records System (2016-2023). Descriptive statistics were used to report virological failure (VF) (two consecutive VL measurements >400 copies/mL), viral load suppression (VLS) <400, deaths and lost-to-follow up (LTFU), from the time of switch to DBRs until switched off DTG, were LTFU, transferred out or died, for up to 60 months.

Results: Median age of n=499 males and females, 16 years (52.5% female); Rates of VLS at 60 months, 88.2% (Table 1); 7.8% (39) experienced VF after VLS (5.4% females, 4.6% males); 16.2% (81) experienced transient viremia, 3.2% (16) re-suppressed on the same DBR. 94.8% (37/39) with VF occurred in adolescents ≥16 years, 71.7% failed by 36 months. No statistically significant differences of VF found upon disaggregation by gender, VLS at switch, 1st or 2nd line at switch (P=>0.05)

Months from time of Switch	# / % of Total Cohort	Number with Viral Loads Tests	% Viral Load Coverage	% Viral Load Suppression	Number Suppressed	LTFU	Deaths	Transferred out of the Cohort
0	N=499 / 100%	316	63.3%	82.3%	260	1	2	1
6	495 / 99.1%	380	76.8%	89.5%	340			3
12	492 / 98.5%	350	71.1%	89.4%	313			6
24	486 / 97.3%	366	75.3%	84.7%	310			3
36	483 / 96.7%	346	71.6%	88.4%	306	2		22
48	459 / 91.9%	351	76.5%	84.9%	298	7		22
60	430 / 86.1%	229	53.3%	88.2%	202			

Conclusions: High VLS of 88.2% at 60 months were achieved at a private-public facility providing extensive psychosocial support. Higher rates of VF were found in older adolescents. Lower than expected VL coverage (55.3%) at 60 months, likely reflected the SARS-COVID19 period when routine VL monitoring was suspended.

Remarkably, 16.2% adolescents experienced transient viremias and 3.2% adolescents with confirmed VF subsequently achieved VLS on their original DBR, reflecting the critical importance of on-going VL monitoring and comprehensive psycho-social support.

EP0210

Determinants of successful transition from paediatric to adult HIV care in Zambia, 2015-2023

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Background: The transition from paediatric to adult HIV care is a critical phase for adolescents living with HIV, requiring structured support to maintain adherence and viral suppression. In Zambia, this process often faces challenges such as treatment fatigue, care discontinuity, and psychosocial barriers, leading to poor outcomes.

Understanding the determinants of successful transitions is vital to improving health outcomes in this vulnerable population.

Methods: A retrospective cohort study was conducted using data from Zambia's SmartCare electronic Health Record system. The study included adolescents aged 10–19 years who transitioned to adult HIV care between 2015 and 2023. Clinical and demographic data were analyzed. Key outcomes included ART adherence, viral load suppression(<1,000 copies/ml), and retention in care post-transition. Multivariable regression models were used to identify determinants of successful transitions.

Results: Among 5,500 adolescents, 85% achieved ART adherence, and 75% maintained viral suppression within 12 months of transitioning. Factors significantly associated with successful transitions included strong family and community support systems (adjusted OR: 2.3, 95% CI: 1.8–3.1), early transition preparation (adjusted OR: 1.9, 95% CI: 1.5–2.4), and access to structured transition programs (adjusted OR: 2.7, 95% CI: 2.1–3.5). Adolescents receiving psychological counselling were 1.8 times more likely to remain in care compared to those without.

Conclusions: Structured transition programs addressing both clinical and psychosocial needs can improve health outcomes for adolescents transitioning to adult HIV care. Family and peer support, mental health services, and improved healthcare accessibility can facilitate retaining adolescents in care.

Expanding such programs across Zambia may reduce care discontinuation and improve long-term outcomes for this population.

EP0211

Addressing mental health challenges to improve treatment adherence among children and adolescents living with HIV in Shiselweni, Eswatini

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Background: World Vision Eswatini (WVE) implements a community-based OVC/DREAMS program as part of the Kingdom of Eswatini's HIV response. This program focuses on preventing new HIV infections and reducing vulnerabilities among orphaned and vulnerable children (OVC) aged 0–17 years and adolescent girls and young women (AGYW) aged 15–29 years. By providing evidence-based interventions, WVE addresses HIV prevention, mobilizes subpopulations for clinical and family planning services, and offers adherence support for children and adolescents living with HIV (C/ALHIV) in collaboration with local healthcare facilities.

Recognizing the link between mental health challenges and treatment adherence, WVE introduced integrated mental health interventions in 2023. These interventions include group therapy sessions, household visits, psychological first-aid, and one-on-one counseling, aimed at addressing psychosocial barriers and improving health outcomes for vulnerable populations.

Description: Adherence support is provided through Linkages Officers who engage with C/ALHIV in households and health facilities. Project data from 2021 to 2023 demonstrated high viral load and treatment interruption among C/ALHIV. Verifications to establish the cause revealed that mental health challenges contribute to treatment interruption, as 98/1304 interrupted treatment and 72 recorded a high viral load.

Adolescents often express frustration, anger, and despair, stemming from their status, feelings of betrayal by parents, and concerns about living a "normal" life. Provision of psychosocial support to C/ALHIV and their parents addressed such challenges and have improved treatment adherence.

Routine implementation data show a marked improvement in adherence, with 99% of C/ALHIV in the program achieving viral suppression compared and 100% adhering to treatment in 2024. WVE also integrates clinical referrals for mental health services to psychologists, peer support groups or teen clubs, and caregiver education forums.

Lessons learned: Early disclosure of HIV status to children living with HIV helps in addressing their psychosocial challenges. Proactive psychosocial support equips children and adolescents with resilience and coping mechanisms, reducing the likelihood of treatment interruption.

Conclusions/Next steps: Mental health challenges are a significant barrier to treatment adherence among C/ALHIV. Strengthening early disclosure practices and embedding continuous, age-appropriate counselling within HIV care programs are vital for improving adherence and overall health outcomes.

EP0212

Improving viral load suppression rate among children and adolescents living with HIV (CALHIV), a continuous quality improvement project at Maanyi H.C.III, Mityana district, Uganda

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Background: At Maanyi H.C.III, only 43% of CALHIV had suppressed viral load results as of March 2024 which is against the Uganda Ministry of Health's standard of 95%. Contributing factors included missing scheduled appointments, lack of supportive caregivers, non-disclosure whereby some adolescents didn't know the reasons for taking medications, drug resistance, stigma, and discrimination.

A Continuous Quality Improvement (CQI) project was launched aiming at increasing the rate from 43% in March 2024 to 95% by February 2025.

Description: Several interventions were introduced in April 2024 to improve adherence and viral load suppression. Routine and timely viral load monitoring is conducted every six months among CALHIV, Intensive Adherence Counseling (IAC) one month apart for non-suppressed cases, and after achieving three consecutive goods, a repeat viral load test done together with a Drug resistance test to facilitate early identification of resistance and timely adjustments of ART regimens.

Peer support groups were strengthened to encourage adherence and engagement. Caregivers were trained on safe disclosure and provided mental health support. Adolescents participated in educational camps to share experiences and learn coping strategies from each other. Home visits and household assessments identified individual barriers to adherence and facilitated individualized interventions. Anti-stigma campaigns are being conducted through community radio towers and social media to address misconceptions and reduce discrimination. Some adolescents with good adherence were trained as peer educators to provide support and act as role models for their peers.

Lessons learned: Peer-led interventions proved essential in enhancing adherence, with adolescents fostering trust and engagement. Caregiver education created a supportive home environment, while community engagement reduced stigma. Routine monitoring and early drug resistance detection allowed timely ART adjustments. Addressing psychosocial factors like stigma proved to be crucial for sustained adherence.

Conclusions/Next steps: By December 2024, the viral load suppression rate had increased to 85%. Moving forward with the target of 95%, the project will scale up the peer education program, and expand home-based support, and anti-stigma campaigns.

Continued viral load monitoring and personalized support are essential to reach the 95% suppression target by February 2025 and improve long-term health outcomes for CALHIV.

EP0213

Neurotypical vs. neuroatypical development among school-aged and adolescent HIV-exposed children from Uganda: findings from a consensus group evaluation

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Background: We examine the hypothesis that children with perinatal HIV infection may be more likely to be clinically diagnosed with neurodevelopment disorders by school-age and adolescence when compared to HIV unexposed and uninfected children.

Methods: A sample of 164 children and adolescents (aged 6-18 years), based on their high, moderate, or low total score on the Social Responsiveness Scale, second edition (SRS-2), were enrolled with their respective primary caregivers from a larger ongoing study of 750 children. The 61 CPHIV, 54 CHEU, and 49 CHUU were then sent to a clinical consensus team including psychiatrists and psychologists blinded to children's HIV status and neurodevelopmental concerns for independent clinical neurodevelopmental disorder (ND) evaluation and diagnosis. Children were classified as neurotypical, if no disorder was flagged and neuroatypical, if diagnosed with ≥ one disorder.

Multivariable logistic regression models implemented in Statistical Analysis Software (v.9.4) estimated HIV-status associated odds ratio (OR) with 95% confidence intervals (CI) for the likelihood of neuroatypical diagnosis with adjustment for age and sex.

Results: Compared to CHUU, CPHIV had a significantly increased likelihood for being diagnosed as neuroatypical, (OR=2.4; 95% CI: 1.10, 5.45). The likelihood of being neuroatypical was similar among CHEU and CHUU (OR=0.79; 95% CI: 0.36, 1.74).

Further, CPHIV were more likely to be diagnosed with more than one developmental disorder relative to CHUU (OR=1.98; 95% CI: 0.94, 4.20). Most HIV-exposed children were clinically diagnosed with attention deficit hyperactivity disorder, intellectual disorder, stuttering and functional impairment.

Conclusions: When compared to CHUU, CPHIV are more likely to be clinical diagnosed with a developmental disorder (i.e., neuroatypical). It is reassuring to see that CHUU and CHEU are not different in their likelihood to be so diagnosed. There long-term development of CPHIV should be continuously monitored and interventions should be utilized that promote their long-term functioning.

Antiretroviral therapies and clinical issues in neonates, infants and children

EP0214

Proviral genotype and phenotype as predictors of broadly neutralizing antibody susceptibility

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Background: The Tatelo study showed that broadly neutralizing antibodies (bNAbs) maintained HIV suppression in children with favorable reservoir characteristics. We investigated associations between treatment success and bNAb susceptibility as predicted by proviral genotype (GT) and phenotype (PT).

Methods: Children with vertically acquired HIV in Botswana were started on ART within the first week of life, on ART ≥96 wks, and virally suppressed ≥24 wks at inclusion in Tatelo. Participants received monthly infusions with 2 bNAbs (VRC01LS, 10-1074), initially with ART, then during a period when ART was held. At 24 wks, or earlier if viral rebound occurred, bNAbs were discontinued and ART was resumed.

Proviral DNA obtained from timepoints before Tatelo (bNAb naïve) was sequenced. The bNAb-ReP software (https://github.com/RedaRawi/bNAb-ReP) was used for GT interpretation and PhenoSense mAb Assay (Labcorp-Monogram Biosciences) for PT bNAb susceptibility testing. Fisher's exact test was used for associations of proviral GT/PT with treatment success (absence of viral rebound).

Results: The analysis included 202 intact env sequences from 18 participants. Eleven (61%) of these 18 experienced viral rebound. GT predicted 10-1074 susceptibility in 13 (72%), and VRC01LS susceptibility in 2 (11%) participants. For 10-1074, 6/13 (46%) with predicted susceptibility by GT and 5/5 (100%) with predicted resistance rebounded (p=0.10), suggesting a high negative predictive value (100% [0.57%-100%]).

There was no association between predicted VRC01LS susceptibility by GT and therapeutic success (1/2 with predicted susceptibility, 6/16 with predicted resistance, [p>0.99]). Proviral PT predicted susceptibility to 10-1074 in 8/14 (57%) with available results and this was associated with treatment success (2/8 with predicted susceptibility, 0/6 with predicted resistance [p<0.01]). PT predicted susceptibil-

ity to VRC01LS in 7/14 (50%), but this was not associated with treatment success (3/7 with predicted susceptibility, 3/7 with predicted resistance [p>0.99]). We found robust agreement between GT and PT predictions for 10-1074 (12/14, 86%), but not for VRC01LS (7/14, 50%).
Conclusions: The utility of PT and GT testing in the Tatelo Study was bNAb dependent. PT susceptibility testing was associated with treatment outcome for 10-1074, and GT testing aligned with the PT results. Neither PT nor GT testing proved useful for VRC01LS, but only few specimens showed preexisting susceptibility.

EP0215

Dolutegravir use in children: experiences of Newlands Clinic, Zimbabwe, 2016-2024

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Background: Dolutegravir has been rolled out for use in first, second- and third-line antiretroviral (ART) regimens among people living with HIV, including children and adolescents. This medicine was widely adopted due to its safety profile, tolerability, high genetic barrier to resistance and efficacy.
We describe the outcomes of children and adolescents who commenced dolutegravir containing regimens at Newlands Clinic (NC).
Methods: A cross-sectional study was conducted in which all children and adolescents living with HIV (CALHIV) who have ever commenced dolutegravir at NC before 15 October 2024 and <18 years old at dolutegravir commencement, were included.
Clinical data including Viral loads (VLs) taken at dolutegravir commencement and most recent VLs (within the last 24 weeks at analysis), were extracted from an electronic database using customized queries. Analysis was done using STATA Ver13.1 and descriptive statistics used.
Results: A total of 810 CALHIV were commenced on dolutegravir at NC between June 2016 to 15 October 2024. Of these 403 (49.8%) were female. Median age at dolutegravir commencement was 13.8 years (IQR 10.1 – 17.2). A total of 267 (31.7%) were orphaned (86 [10.6%] paternal, 102 [12.6%] maternal, 69 [8.5%] double).
At analysis, median duration on dolutegravir was 50 months (IQR 38 – 56) and 724 (89.4%) remained in care, 67 (8.3%) had been transferred out, 12 (1.5%) were lost to follow up, two (0.02%) had dolutegravir discontinued due to adverse events and seven(0.8%) deceased.
Of the deceased, three died from advanced HIV disease, two from accidental causes and two from non-communicable disease. At dolutegravir commencement, 771 (95.2%) were ART experienced, and of these, 86.6% had a viral load (VL) <1000 copies/mL at treatment switch.
Of those ART naïve at dolutegravir commencement and at least 24 weeks on dolutegravir containing regimen, 89.2% had a most recent VL <1000 copies/mL, and 67.6% had VL <50 copies/mL, and of those ART experienced 95.5% had VL <1000 copies/mL and 87.1% had VL <50 copies/mL.
Conclusions: We report excellent viral suppression rates on dolutegravir in this cohort of predominately ART experienced CALHIV as well as a very low mortality and high retention in care. Dolutegravir is safe and efficacious in CALHIV.

EP0216

Lessons learned from evaluation of final outcomes of HIV exposed infant cohorts of year 2022 in Ethiopia

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Background: The National 2021 Prevention of Mother to Child Transmission (PMTCT) Guideline is implemented across all health facilities to identify and provide care for pregnant and lactating women living with HIV and their infants. However, health outcomes of HIV exposed infants (HEI) are not being longitudinally investigated or reported at the national level. The objective of this evaluation was to determine the documented HEI outcomes by identifying the number and percentage of HEIs at selected health facilities in Ethiopia.
Methods: We conducted a retrospective data review of a cohort of 3,844 infants across Ethiopia, encompassing 11 regions and two city administrations from January to February 2024 using registers, clients' charts, and aggregate reporting of key performance indicators for each infant. The infant cohort consists of the number of HEIs whose mothers were enrolled in PMTCT care and completed at least two years of HEI follow up. We selected 56 health facilities that implemented cohort monitoring for three years. We conducted descriptive analysis stratified by regions and analyzed six HEI outcome indicators: discharged negative, lost to follow-up (LTFU), transferred out, HIV-positive, died, and still exposed during follow-up care due to continued breast feeding.
Results: Out of the 3,844 HEI in the cohort, 3,181 (82.8%) were discharged negative, 281 (7.3%) were LTFU, 261 (6.8%) transferred out to other health facilities, 47 (1.2%) were HIV-positive, and 50 (1.3%) died. Regional disaggregation of HEI outcome for discharged negative showed that five regions achieved greater than 85% achievement; while three regions (Afar, Somali and Central Ethiopia) achieved less than 75% discharged negative. Central Ethiopia achieved the lowest result at 60%, with unknown status of 14.1%.
Conclusions: Although most of HEIs in the cohort had a known outcome, conducting cohort monitoring analysis could benefit the country's prevention of vertical trans-

mission of HIV program in addressing the regional variation of HIV positivity rate among the HEIs, reduce LTFU, and minimize unknown status at the end of HEI follow-up care. This would ultimately accelerate progress towards elimination of vertical transmission of HIV.

EP0217

Optimizing viral load services for children living with HIV: the quality improvement initiative to enhance viral load suppression in Southern Nigeria

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Background: Achieving viral load (VL) suppression among children living with HIV (CLHIV) is key to improving their health outcomes and preventing disease progression. The USAID/PEPFAR-funded Accelerating Control of the HIV Epidemic – Cluster 5 (ACE5) project launched a six-month "Operation-Go-Green" in March 2024 to reverse declining VL suppression among CLHIV in Southern Nigeria. This study appraises the outcome of the intervention.

Methods: The initiative focused on childhood (boarding school), caregiver (forgetfulness, herbal medications, change of caregivers, food insecurity), and clinical (child ailments, sub-optimal regimen) factors contributing to treatment failure.

Strategies employed were appointment scheduling outside boarding school calendar, treatment supporters, medication reminders, caregiver treatment literacy, management of childhood ailments, pediatric dosing charts, and household economic empowerment.

Program data (sex [male, female] and VL [≥1,000 copies/ml: unsuppressed, <1,000 copies/ml: suppressed, <50 copies/ml: undetectable=untransmittable [U=U]]) were extracted from the Lafiya Management Information System for CLHIV (<15 years) receiving antiretrovirals for ≥ six months in Akwa Ibom and Cross River States, from October 2023 to September 2024.

Data were grouped into fiscal-year quarters: October–December 2023 (Q1), January–March 2024 (Q2), April–June 2024 (Q3), and July–September 2024 (Q4).

We compared viral suppression (proportion of CLHIV with suppressed VL) and U=U rates (proportion of CLHIV with U=U VL) using linear regression in SPSS v26.

Results: CLHIV ranged from 5,100 in Q4 to 5,214 in Q1 (mean: 5,067; SD: 42.9) (Table 1). Across quarters, mean proportion of males was 50.2% (SD: 0.2).

Period	Sex	Eligible CLHIV	Viral Load >1,000 copies/ml	Viral Load <1,000 copies/ml	U=U	Coverage	Suppression Rate	% U=U
Q1	Female	2,602	136	1,954	1,814	80.3%	93.5%	86.8%
	Male	2,612	145	2,315	2,146	94.2%	94.1%	87.2%
Q2	Female	2,512	173	1,947	1,747	84.4%	91.8%	82.4%
	Male	2,507	184	1,953	1,741	85.2%	91.4%	81.5%
Q3	Female	2,523	123	2,231	2,008	93.3%	94.8%	85.3%
	Male	2,561	158	2,243	2,008	93.8%	93.4%	83.6%
Q4	Female	2,538	81	2,314	2,108	94.4%	96.6%	88.0%
	Male	2,562	79	2,354	2,122	95.0%	96.8%	87.2%

Table 1. Viral load summarized by quarter.

VL suppression improved from 93.8% (4,269/4,550) to 96.7% (4,668/4,828) (R^2=0.99, p=0.073), and U=U rate improved from 87.0% (3,960/4,550) to 87.6% (4,230/4,828) (R^2=0.96, p=0.121) from Q1 to Q4. VL suppression and U=U rates did not differ significantly (p >0.05) between sexes.

Conclusions: This initiative resulted in an upward trend in viral suppression among CLHIV. Further evaluation of longer-term outcomes is recommended.

EP0218

Effects of antiretroviral use by HIV-positive pregnant women on the birth weight of HIV exposed children

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Background: An association between the use of antiretroviral (ARVs) during pregnancy (mainly preconception or in the first trimester of pregnancy) and low birth weight was observed. This premise was not evaluated with integrase inhibitors.

The objective of this study is to evaluate the impact of exposure to ARVs on birth weight in a cohort of pregnant women living with HIV (GVH) and their newborns (NBs).

Methods: Cross-sectional study, nested within a cohort of GVH and their newborns. We selected newborns born in 2022 and 2023, followed at IPPMG-UFRJ, where demographic, clinical and laboratory data were collected. We categorized newborns as low birth weight (LBW, <2500g) and adequate weight, and also assessed variables possibly associated with thiscondition through logistic regression.

Results: Between 2021-2023, we followed 182 infants exposed but not infected with HIV. Of these, 90 (49%) were girls, 46 (25%) mothers reported white ethnicity, and the average maternal age was 27 years. A total of 176 (96%) of the mothers received prenatal care, which began on average at 11 weeks of gestational age (GA), and 171 (93%) used antiretroviral therapy (ART) during prenatal care, which began on average at 9 weeks of GA.

Furthermore, 68 (37%) mothers were already using ARVs when they became pregnant. 73 women (40%) had vaginal delivery, 12 NB were premature and 23 were LBW. The

variables statistically associated with LBW were NB whose mothers did not use dolutegravir during pregnancy (OR=2.63, CI95%= 1.08-6.47) and later initiation of prenatal care (OR=2.631.06 per GA, CI95%= 0.99-1.13).

Conclusions: Prenatal care as early as possible and the use of integrase inhibitors during pregnancy appear to protect newborns exposed to but not infected with HIV from possible
LBW.

EP0219

Clinical and virological outcomes among children and adolescents with HIV after initiation of antiretroviral therapy: a five-year cohort analysis in Cameroon, 2019–2024

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Background: While pediatric HIV care has advanced in resource-limited settings, achieving and maintaining undetectable viral load (VL) in children and adolescents living with HIV (CALHIV) remains a challenge. Real-word data are essential to inform strategies for improving pediatric HIV care outcomes.

We assessed mortality, time to death, and virological outcomes in CALHIV initiating antiretroviral therapy (ART) in two Cameroonian regions.

Methods: We conducted a retrospective cohort analysis using data from 46 HIV clinics. We included children (0–9 years) and adolescents (10–14 years) who initiated ART between October 2019 and September 2023, with follow-up until July 2024. We abstracted and de-identified individual-level data from facility data sources.

We analyzed mortality, time to death from ART initiation, and undetectable VL (<40 copies/mL) outcomes stratified by age, with comparisons using Chi-squared and Kruskal-Wallis tests.

Results: The cohort included 730 CALHIV (median age: 4 years; IQR: 1.2–8.5), with 367 (50.3%) males and 137 (18.8%) adolescents. Median follow-up time was 19.6 months (IQR: 10.7–32.7).

Overall, 42.9% (313/730) were initiated on a dolutegravir-based regimen with 38.5% in 0–2-year-olds, 39.1% in 3–9-year-olds, and 60.6% in 10–14-year-olds. Among 417 not initiated on dolutegravir, 264 (63.3%) switched to dolutegravir. Overall, 118 (16.2%) were lost to follow-up, with a median time from ART initiation to the last visit of 10.8 months (IQR: 5.6–18.4). Among 433 (59.3%) CALHIV on ART for ≥6 months with VL data, 313 (72.3%) achieved undetectable VL. Younger children (0–2-year-olds) had lower proportion of undetectable VL (61.8%,110/178) compared to 3–9-year-olds (75.4%, 126/167) and 10–14-year-olds (87.5%, 77/88), p<0.0001.

Of 112 participants with ≥1 year follow-up after their first undetectable VL, 85 (75.9%) maintained an undetectable level. Children showed lower maintenance (70.9%, 56/79) compared to adolescents (87.9%, 29/33), p=0.088. Crude mortality was 10.0% (73/730), with no age-group variations. Median time from ART initiation to death was two months (IQR: 0.8–5.0).

Conclusions: CALHIV in Cameroon, especially children, experienced suboptimal virologic suppression and significant mortality. Prioritizing viral load monitoring in young children and ensuring early initiation of optimized-ART regimen could significantly improve treatment outcomes and reduce mortality among children.

EP0220

Using a pediatric prescription tool for antiretroviral therapy optimization: improving treatment outcomes in children living with HIV in Tanzania

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Background: Pediatric HIV management poses unique challenges, particularly with respect to dosage accuracy and regimen selections, which are critical to achieving pediatric viral load suppression (VLS). We introduced a pediatric antiretroviral therapy (ART) prescription tool to improve ART optimization and present here lessons learnt from its implementation in Tanzania.

Description: The ART prescription tool was piloted to optimize dosages and regimen choices, aiming to improve prescribing accuracy, adherence, and treatment outcomes for children living with HIV (CLHIV). We provided capacity building for clinic workers on how to use the tool. A tailored ART prescription tool was utilized for each CLHIV at every visit. Chart review of the care and treatment cards was conducted for all CLHIV aged 0-14 years to review the accuracy of the ART (regime and dosage) and viral load monitoring. Descriptive analysis was done on aggregated routine programmatic data between April 2024 – September 2024 at 12 care and treatment clinics at Ikungi District in Singida Region.

Lessons learned: A total of 171 children aged 0-14 years old receiving care and treatment services from 12 facilities were administered the ART prescription tool. At the start of the intervention in April 2024, there were 11/171(6.4%) CLHIV with dosing and /or regimen errors, 21/171(12.3%) CLHIV with unknown HIV viral load status, and 17/171(9.9%) CLHIV with high HIV viral load results. By September 2024, the dosing and/or regimen errors had decreased to 0% errors. We observed improved treatment outcomes in this cohort of CLHIV by improved clinical markers, i.e. viral load coverage (VLC) increased from 87.7% in May 2024 to 97.6% in September 2024, and viral load suppression (VLS) improved from 90.1% to 97.9% within the same period.
Conclusions/Next steps: We observed a reduction in prescription errors and improvement of viral load suppression among children after the introduction of prescription tool. It will be important to monitor the cohort of children for a longer period. In addition, this strategy should be expanded to additional sites to see if the results are sustained.

EP0221

Comparative adherence and effectiveness of Dolutegravir vs Lopinavir in Tanzanian children with HIV: retrospective cohort study

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Background: Tanzania faces a significant HIV burden, with approximately 85,000 children living with the virus as of 2012. The global 95-95-95 targets aim to achieve high rates of diagnosis, treatment, and viral load suppression by 2030. Effective pediatric medications are crucial for achieving these goals. Current management practices are shifting from lopinavir-based to dolutegravir-based regimens; however, there is limited data on the adherence and effectiveness of dolutegravir in Tanzania.
The main objective was to compare the adherence and effectiveness of a dolutegravir 10mg based regimen verses Lopinavir based regimen among HIV-infected children in Tanzania.
Methods: A retrospective cohort study was conducted from January 2021 to October 2023 across three clinics: Muhimbili National Hospital, Mbeya Zonal Referral Hospital, and Baylor College of Medicine in Bugando. The study included 340 children who had been on either dolutegravir (DTG) or lopinavir/ritonavir (LPV/r) regimens for at least 6 to 12 months. Adherence was assessed via medication refill schedules, while effectiveness was defined as viral load suppression (VL < 50 copies/ml). Data were analyzed using SPSS version 23, with categorical variables summarized using frequencies and proportions, and continuous variables summarized using the median. Inverse probability treatment weighting (IPTW) was employed to balance baseline characteristics between the two groups.
Results: Adherence was significantly better in the DTG group (95.9%) compared to the LPV/r group (85.1%) (P < 0.001). The DTG group also experienced fewer reports on adverse drug events (ADEs) (8.7%) compared to the LPV/r group (22.0%) (P < 0.001). Factors associated with better adherence included being aged ≥ 5 years, having an active caregiver, and the absence of ADEs. Viral load suppression rates were higher in the DTG group at both 6 and 12 months compared to the LPV/r group.
Conclusions: The DTG regimen demonstrates significantly better adherence and effectiveness compared to the LPV/r regimen in pediatric HIV patients. These findings support the adoption of DTG as the preferred regimen for children in Tanzania.

EP0222

Enhancing paediatric HIV treatment outcomes through Community Adolescent Treatment Supporters (CATS) model in Zimbabwe

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Background: Viral load (VL) monitoring is the cornerstone of HIV management. The Zvandiri model responds to the specific needs of Children, Adolescents and Young People living with HIV and their families to ensure the prevention and control of HIV through peer led, Community Adolescent Treatment Supporter (CATS) intervention. The intervention was implemented since 2022 together with Ministry of Health and Child Care (MoHCC) and Zimbabwe Health Interventions (ZHI) in 36 health facilities in Manicaland and Midlands provinces of Zimbabwe. At baseline, significant gaps in VL monitoring were noted, attributed to lack of adequate caregiver support, stigma, low treatment literacy, lack of treatment monitoring and follow up, and limited access to health care services.
Description: Zvandiri, ZHI and MoHCC implemented a multifaceted intervention centred on the CATS package of services. Key components included peer facilitation of paediatric and adolescent support groups, caregiver treatment literacy and support meetings, adherence counselling during home visits, mental health screening, support and referral, and disclosure support.
Enhanced Adherence Counselling (EAC) clinics were conducted to facilitate learning and sharing for children with detectable VL. We utilised age and developmentally appropriate tools including Zvandiri interactive counselling games, animated books and videos. We descriptively analysed program data from 2022 to 2024.
Lessons learned: A total of 1,869/1869 (100%) 0-14 years, received the CATS package of services in the supported health facilities. Viral load coverage increased from 60% (726/1,212) in 2022 to **92% (1,685/1,823) in 2024.** In 2024, 734 (87% improvement from 2023) had VL samples collected

in the in hard-to-reach communities. 126/136 and 63/63 EAC clinics were held in 2023 and 2024, respectively, reaching 238 paediatrics and adolescents and 189 caregivers. The viral suppression rose from 87% (635/726) to **96% (1,613/1685).** The successes were attributed to regular adherence monitoring, caregiver support, access to support groups, and community-based peer intervention.

Conclusions/Next steps: These findings suggest that comprehensive, peer led, community-centred approaches can substantially improve VL monitoring and outcomes for children living with HIV, offering valuable insights for healthcare interventions in similar contexts.

This significant enhancement highlights the effectiveness of the community-based support model in improving HIV treatment outcomes for children and adolescents.

EP0223

Intergrated Mother Baby Course (IMBC) model in action: a comprehensive approach to HIV diagnosis and prevention in Zimbabwe Maternal Health

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Background: In 2020, Zimbabwe's Mother-to-Child Transmission (MTCT) rate stood at 8.7%, exceeding the World Health Organisation (WHO) target of 5%. Contributing factors include inadequate follow-up for PMTCT mothers with high viral loads, delayed final PMTCT outcome testing, and prolonged Nucleic Acid Test (NAT) result turnaround times (6–8 weeks).

To address these issues, an integrated model combining maternal health and infant care interventions is essential for improving both maternal and child health outcomes, ultimately reducing MTCT rates.

Description: Through the USAID funding, Zimbabwe AIDS Preventing Project (ZAPP) is implementing the SPACE FOR OVC program which aims to contribute and sustain PEPFAR epidemic control efforts by enhancing HIV prevention, care and treatment service provision to most at-risk sub-populations in 9 districts. This includes maternal engagement in IMBC sessions through 105 mentor mothers in 9 districts trained on IMBC facilitation. Mentor mothers are MCT champions who enrol HIV-positive pregnant and lactating women in support groups (IMBC).

In these groups, they discuss stress management, adherence, and coping strategies for raising an HIV-exposed infant, with the primary goal of ensuring the child remains HIV-negative.

Lessons learned: Between October 2023 to September 2024, 2,012 women living with HIV on ART with children under 2 years were enrolled in IMBC sessions. Among HIV-exposed infants, 715 underwent final outcome testing within the recommended timeframe (post-weaning), with 702 testing negative, achieving a 98.2% success rate within the World Health Organization (WHO) target for MTCT. Among HIV-positive infants 13 (1.8%), ART was initiated within the first month. Of note maternal participation in IMBC sessions was significantly associated with improved HIV testing rates and ART initiation. And independently associated with a lower likelihood of vertical transmission.

Conclusions/Next steps: Maternal engagement in IMBC sessions significantly improved health literacy and care retention, contributing to reduced vertical transmission rates. The IMBC model demonstrated substantial success in improving HIV outcome testing rates among HIV-exposed infants and reducing MTCT rates in the targeted districts. These findings support the scale-up of integrated care models to enhance prevention efforts and minimize vertical transmission in resource-limited settings.

EP0224

Time to undetectable viraemia among children newly initiating dolutegravir-based antiretroviral therapy: a programmatic analysis

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Background: Undetectable viraemia reduces the likelihood of clinical disease and transmission. WHO recommends viral load (VL) testing within six months of initiating ART. This study assessed the time to undetectable viraemia among children newly initiating ART in Southern Nigeria.

Methods: This retrospective cohort study used data from electronic medical records of children aged below 15 years who initiated ART between October 2021 and September 2023 at 88 health facilities in Akwa Ibom and Cross River States. Data extracted at ART initiation includes sex, age, regimen type (Abacavir-Lamivudine-Dolutegravir [ALD] or Tenofovir-Lamivudine-Dolutegravir [TLD]), and VL test results with dates (extracted quarterly until September 2024).

Viral load tests were routinely done every six months. VL results were categorised as undetectable (<50 copies/mL), otherwise detectable. Kaplan–Meier estimator was used to assess the time to undetectable viraemia (days between ART initiation and first undetectable VL), stratified by age (categorised into 0-4 years, 5-9years and 10-14 years) and regimen type, at a 0.05 significance level.

Results: During the study period, 1816 children initiated ART; 51.3% (932) were female, 37.3% (677) were aged 0-4 years, 28.5% (518) were aged 5-9 years and 34.2%(621) were 10-14 years. 72.5% (1316) were initiated on ALD regimen.

Overall median time to undetectable viraemia was six months (IQR: 4-9) and differed by age (0-4 years: 7 months [IQR: 5-10]; 5-9 years: 6 months [IQR: 4-6]; 10-14 years: 6 months [IQR: 4-9], log-rank p-value =0.05). Median time

was comparable by regimen type (ALD: 6 months [IQR: 4-10]; TLD: 6 months [IQR: = 4-9months], log-rank p-value =0.621).

Conclusions: While the majority of children attained undetectable viraemia within six months of ART initiation, children 5 years and older attained undetectable viraemia earlier. Attention should be given to children <5 years to attain optimal treatment outcomes.

EP0226

The practice of delayed cord clamping does not increase the risk of HIV mother-to-child-transmission: an Italian experience

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Background: Delayed cord clamping (DCC) refers to the practice of waiting 60 seconds after birth before clamping the umbilical cord, in order to increase the amount of blood that goes from the placenta to the newborn. DCC has become a routine practice since its proven association with several neonatal benefits, including higher red blood cell flow to vital organs with better cardiopulmonary adaptation, higher hemoglobin concentrations, additional iron stores, and reduced rates of anemia later in infancy. However, in the context of maternal HIV infection, DCC has been scarcely used due to the lack of specific recommentations by scientific societies on the topic and the fear of potentially increasing the risk of mother-to-child-transmission (MTCT).

Methods: We conducted a retrospective study at a single center in Northern Italy (Foundation IRCCS San Gerardo dei Tintori, Monza) to analyze the rate of MTCT in HIV-positive mothers in whom DCC was performed.

Results: 77 pregnancies were observed between 2008 and 2023 among 58 women living with HIV (WLWH), and for each of these the DCC practice was implemented. Regarding the mode of delivery, 45 women underwent cesarean section (33 planned pre-labor and 12 urgent in labor), whereas 32 gave birth vaginally. All mothers were on combination antiretroviral therapy (cART) and showed an undetectable HIV viral load at delivery. There were no cases of HIV MTCT among the 77 newborns.

Conclusions: Thanks to cART, pregnant WLWH can be managed according to several standard interventions followed for HIV-negative women, such as accessto vaginal birth. Some practices that have shown beneficial effects on the general population are still precluded to WLWH due to fear or lack of data on the safety of the practice with respect to HIV-MTCT. Our study provides additional evidence regarding the safety of DCC and supporting its implementation in pregnant WLWH, as long as they arrive at the time of delivery with a stably suppressed HIV viral load.

Clinical issues specific to key populations

EP0227

Central and Eastern European migrants living with HIV in two different European regions: Polish and Italian cohorts

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Background: Migration in Europe has undergone notable acceleration in recent years, driven by multifaceted factors. The aim of the study was to perform a comparative analysis of the two cohorts of migrants from Eastern and Central Europe living with HIV being linked to care in Modena (Italy), and Warsaw (Poland).

Methods: It was a cross-sectional analysis of data collected from medical records of the Eastern European migrants living with HIV being linked to care in the HIV Outpatient Clinic in the Hospital for Infectious Diseases in Warsaw and in the Department of Infectious Diseases and Tropical Medicine at the University Hospital of Modena.

Results: In total, 301 migrants living with HIV were included in the analysis. The median age of the population was 38 years, mainly consisting of women (n=170, 56.5%). The most common HIV transmission mode was heterosexual (n=175, 58.1%). Most of the population was virologically suppressed when linked to care (n=174, 57.8%), with a median CD4 count of 484.5 cells/uL (IQR: 321.6–714.1 cells/uL). In 49 (16.3%) persons there was the HBV co-infection, and in 81 (26.9%) the HCV co-infection. Risk factors for HIV viral load detectability were male sex (p=0.011), being linked to care in Italy (p<0.0001), and having the HBV co-infection (p=0.002). Risk factors for undetectability were older age (0.002), longer HIV infection duration (p<0.0001), higher CD4 cell count (p<0.0001), being on antiretroviral treatment (p<0.0001). The multivariable analysis showed that being linked to care in Italy was a factor independently associated with HIV VL detectability (OR 0.2, 95% CI 0.06–0.68, p=0.01). Factors independently associated with HIV VL undetectability were higher CD4 cell count (OR 1.00, 95% CI 1.00–1.00, p<0.0001) and being on antiretroviral treatment (OR 8.85, 95% CI 1.75–44.61, p=0.008).

Conclusions: To conclude, our results remark the importance of a careful taking care of migrants in our countries, through prompt HIV screening and ARV treatment beginning, in order to ensure their health status and prevent HIV transmission. HIV testing, together with HBV/HCV screening, must be done not only at the time of arrival in another country, but also later in time.

EP0228

Active tuberculosis case finding and treatment outcomes among key populations living with HIV in Delta State, Nigeria: a retrospective study

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Background: Diagnosing and managing tuberculosis (TB) among key populations (KP) living with HIV remain significant healthcare challenges. This cohort faces barriers to healthcare access due to stigma and social marginalization. Targeted testing and prompt linkage to care hold promise for improved treatment outcomes.

This study assessed TB incidence and treatment outcomes among KPs living with HIV in Delta State between July 2023 and June 2024.

Methods: A retrospective study design was used to evaluate TB program implementation among KPs. Incidence data were extracted from TB registers across 5 KP One Stop Shops (OSS). Evaluation methods included clinical assessment, laboratory tests with TB-LAM or GeneXpert, and Chest X-ray. Treatment followed national guidelines and outcome data were obtained from TB-DOT registers and analyzed using Excel.

Results: Approximately 19,690 KPs, including new and returning clients, were screened for TB, with a mean age of 36 (±8.49) years. About 143 presumptive cases were identified among new (16.49%) and returning clients (0.42%) (Figure 1).

76% and 24% were identified in the community and OSS respectively. 21 cases (15 F, 6 M), including men who have sex with men (2), female sex workers (8), and people who inject drugs (11), were diagnosed using diverse diagnostic modalities. The diagnostic yield was 14.69% for both new (80.95%) and returning (14.29%) clients, while the overall treatment success rate averaged 43%, with 6 deaths (29%), 2 lost to follow-ups (10%), and 4 (19%) on treatment.

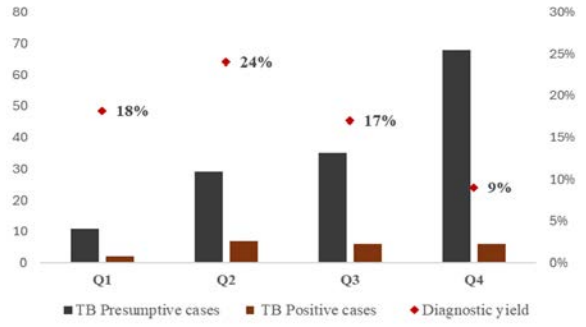


Figure 1.

Conclusions: The study shows increasing TB presumptive cases among KPs, and moderate treatment success due to frequent interruptions among mobile KPs. Strengthening community interventions and expanding access to diagnostic services are essential to improve the current national 80% average.

EP0229

Demographic and HIV characteristics of priority female population living with HIV accepting cervical cancer screening services in resource limited settings

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Background: Cervical-cancer is a leading cause of death among Key Population Women Living with HIV (KPWLHIV). According to WHO, women diagnosed with HIV are six times more likely to develop cervical-cancer than HIV-negative-women. Despite the importance of early cervical-cancer detection through screening, service-uptake among KPWLHIV in Sub-Saharan-Africa (Nigeria) is abysmally low. To improve service-uptake, we investigated demographic and some HIV-related characteristics of KPWLHIV to ascertain their association with uptake of cervical-cancer screening services.

Methods: Society for Family Health (SFH) Nigeria, an indigenous non-governmental organization intervening for priority-populations through USAID funded KP-CARE-2 project, conducted a secondary data analysis using routine program data across eight KP-CARE-2 programming states.

Variables of interests include; Women-Who-Inject-Drugs (WIDUs), Female-Sex-Workers (FSW) and Women-In-Prisons-and-Enclosed Settings (WIPES), age, duration in HIV-care, viral-load (VL) status were extracted from Electronic-Medical-Records platform and analyzed. A logistic regression analysis was employed to evaluate the odds of cervical-cancer screening.

Results: Data was abstracted from 6,197 KPWLHIV-records screened for cervical-cancer: 1,817 (29.32%) WIDUs, 4,372 (70.55%) FSW and 8 (0.13%) WIPES. WIDUs show significantly lower odds of being screened (OR=0.79; p<0.001; 95% CI: 0.74–0.85) than FSW (OR=1.00; p=0.906) or WIPES (OR=1.40; p=0.459). From total records abstracted, 1,732 (28%), 2,869, (46.3%), 1,351 (22%) and 245 (4%) were between ages 20–29, 30–39, 40–49 and >49years. Age groups 30–39 (OR=1.17; p<0.001; 95% CI: 1.10–1.24) and 40–49 (OR=1.14; p=0.001; 95% CI: 1.05–1.23) have higher odds of screening than those

>49years (OR=0.82; p=0.005; 95% CI: 0.72–0.94). Individuals in care between 1–4years are more likely to be screened (OR=5.37; p<0.001; 95% CI: 4.51–6.40), with even higher odds for those in care for >5years (OR=14.75; p<0.001; 95% CI: 12.03–18.07).
Similarly, individuals with a suppressed-VL, 6,007 (96.93%) have much higher odds of being screened (OR=4.29; p<0.001; 95% CI: 3.69–4.98).
Conclusions: This study provided insights about cervical-cancer screening uptake among KPWLHIV. We therefore recommend cervical-cancer screening programs in similar settings to explore innovative strategies to improve uptake among WIDUs.
Similarly, innovative strategies are required to reach older women (above 49years), those <1year in care and women that are virally unsuppressed.

EP0230

Impact of a comprehensive support program on retention in care and viral load suppression among female sex workers living with HIV at WE-ACTx for hope Kigali, Rwanda

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Background: Female sex workers living with HIV (FSWLH) faces challenges such as stigma, financial insecurity, and limited health literacy, which hinder engagement in care and ART adherence. In response, the WE-ACTx for hope (WFH) Clinic in Kigali_Rwanda has developed a comprehensive intervention to address these challenges through integrated medical care, psychosocial support, health literacy education, and economic assistance to promote retention in care and achieve viral load (VL) suppression among FSWLH.
Description: From 2021 to 2024, 134 FSWLH participated in this program at the WFH clinic in Kigali_Rwanda. The interventions included free-of-charge general medical care, monthly group therapy for health education, peer support, and psychological counselling; financial support including transport stipends, health insurance for all family members, nutritional support, and child school sponsorship; and cooperative initiation to reduce financial stressors. ART adherence and VL suppression were tracked through VL monitoring and pharmacy refill data.
Retention in care was assessed through clinic appointments and group therapy attendance. Semi-structured interviews explored overall health impact, experiences, and perceptions of the program.
Lessons learned: Of the 134 participants, 130 (97.0%) achieved VL suppression (<200 copies/ml) within six months of joining, with 128 (95.5%) attained undetectable viral loads (<20 copies/ml). Sustained VL suppression over 2021–2024 was observed in 125 (93.3%) participants. Nine participants (6.7%) experienced intermittent treatment failure (>200 copies/mL), six of which attributed to intermittent incarceration.By December 2024, two participants had passed away, and one participant was completely lost to follow-up. Among the remaining 132 live participants, 131 (99.2%) were retained in care with undetectable VL, except for one individual with a recorded VL of 220 copies/mL. Appointment adherence, pharmacy refill, and group therapy attendance were 97.0%, 98.0%, and 97.3%, respectively.
Qualitative findings revealed improved health literacy, reduced stigma, financial relief, and enhanced mental health in general as contributors to better care engagement.
Conclusions/Next steps: The WFH comprehensive intervention effectively addressed key barriers to VL suppression and care retention among FSWLH.
These findings support the implementation and scale-up of holistic, targeted interventions to improve HIV outcomes in vulnerable populations in resource-limited settings.

EP0231

Partners of Transgender Women in Buenos Aires, Argentina: a key population for targeted HIV and syphilis prevention strategies

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Background: Transgender women (TGW) have high HIV/syphilis prevalence, but the role of their partners (PTGW) in transmission is unclear. Characterizing sexual behavior of PTGW could clarify how they contribute to HIV/syphilis transmission among TGW and other populations.
We aimed to compare sexual behavior and HIV/syphilis prevalence of PTGW to other populations at high risk.
Methods: We analysed cross-sectional data from a voluntary HIV-testing centre in Argentina (June 2023-January 2025). PTGW refers to individuals self-reporting sex with TGW, regardless of their own gender or other partner's gender. HIV/syphilis prevalence among repeat testers was based on their first test. Group comparisons were performed with Kruskal-Wallis, chi-squared, and Fisher's exact tests, and post hoc Wilcoxon rank-sum and Fisher's exact tests with Bonferroni correction, when appropriate. Bivariate analyses were conducted in PTGW to determine associations between age, gender, receptive anal/vaginal sex, cocaine use, transactional sex, and HIV/syphilis diagnosis.
Results: Of 3110 individuals included: 211 PTGW, 1715 men who have sex with men (MSM), 1032 heterosexual cisgender men (h-cis-men) and 152 TGW. Among PTGW, median age was 30 years; 65% self-identified as cisgender men, 13% cisgender women, 8% non-binary, 8% TGW, 4% transgender men and 2% other.
Table-1 shows sexual behavior and HIV/syphilis prevalence by group. PTGW had lower HIV/syphilis prevalence compared to TGW (3%vs.10.5% for HIV, p<0.05; and 5%vs.27% for syphilis, p<0.01). However, no significant differences were observed between PTGW and MSM(p>0.05). Syphilis

prevalence was associated with transactional sex and cocaine use(p<0.05) while no variables were associated with HIV prevalence.

Characteristics	Overall N = 3,110	PTGW N = 211	MSM N = 1,715	p-value (PTGW vs MSM)	h-cis-men N = 1,032	p-value (PTGW vs h-cis-men)	TGW N = 152	p-value (PTGW vs TGW)
Gender of sexual partners, n (%): - Cisgender woman	1,374 (44.2%)	158 (74.9%)	175 (10.2%)	< 0.01	1,032 (100.0%)	-	9 (5.9%)	< 0.01
- Cisgender man	1,962 (63.1%)	113 (53.6%)	1,715 (100.0%)	-	0 (0.0%)	-	134 (88.2%)	< 0.01
- Transgender man	121 (3.9%)	73 (34.6%)	38 (2.2%)	< 0.01	6 (0.6%)	< 0.01	4 (2.6%)	< 0.01
- Non-Binary	126 (4.1%)	70 (33.2%)	40 (2.3%)	< 0.01	10 (1.0%)	< 0.01	6 (3.9%)	< 0.01
Number of sexual partners in the last 6 months, Median (IQR)	3.0 (2.0, 6.0)	4.0 (2.0, 7.5)	4.0 (2.0, 6.0)	1	2.0 (1.0, 3.0)	< 0.01	6.0 (2.0, 15.0)	< 0.01
Sexual practices, n (%): - Anal and/or vaginal receptive sex, n (%)	2,060 (71.4%)	149 (75.6%)	1,400 (85.1%)	< 0.01	380 (41.7%)	< 0.01	131 (99.2%)	< 0.01
- Consistent condom use in anal and/or vaginal receptive sex, n (%)	855 (41.5%)	59 (39.6%)	602 (43.0%)	0.8	141 (37.1%)	< 0.01	53 (40.5%)	1
- Anal and/or vaginal insertive sex, n (%)	2,779 (93.3%)	188 (93.1%)	1,510 (90.7%)	1	962 (98.8%)	< 0.01	119 (86.9%)	0.2
- Consistent condom use in anal and/ or vaginal insertive sex, n (%)	1,045 (37.6%)	63 (33.5%)	609 (40.3%)	0.2	325 (33.8%)	< 0.05	48 (40.3%)	< 0.05
Transactional sex, n (%)	367 (12.2%)	46 (22.1%)	155 (9.3%)	< 0.01	55 (5.6%)	< 0.01	111 (76.0%)	< 0.01
Drugs use in last month, n (%)	1,448 (47.9%)	138 (66.0%)	801 (47.9%)	< 0.01	414 (41.6%)	< 0.01	95 (66.0%)	1
HIV, n (%)	143 (4.6%)	7 (3.3%)	105 (6.1%)	0.3	15 (1.5%)	0.2	16 (10.5%)	< 0.05
Syphilis, n (%)	172 (6.9%)	9 (5.2%)	116 (8.7%)	0.4	27 (3.0%)	0.5	20 (27.0%)	< 0.01

Table1. Sexual behavior and HIV/syphilis prevalence by group.

Conclusions: PTGW represents a gender-diverse population at high risk for HIV and syphilis. Their HIV prevalence is similar to other at-risk groups, such as MSM. Targeted strategies to reduce risk behaviors among PTGW are needed, warranting further research to inform interventions.

EP0232

Unveiling the hidden reality: First-ever prevalence estimates of sexually transmitted and blood-borne infections in Canadian provincial prisons

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Background: Incarcerated individuals are disproportionately affected by sexually transmitted and blood-borne infections (STBBI) and are a key population to the global STBBI response.
As Canadian data on this population are lacking, we aimed to determine the prevalence of blood-borne (HIV, hepatitis B virus (HBV), and hepatitis C virus (HCV)) and bacterial sexually transmitted infections (chlamydia, gonorrhea, and syphilis) among people incarcerated in Quebec provincial prisons.
Methods: Convenience sampling of participants from seven representative provincial prisons (where individuals are sentenced for <2 years) was undertaken. Participants were offered self- or peer-collected dried blood spot (DBS) testing for HIV and HCV antibodies, syphilis enzyme immunoassay (EIA), hepatitis B surface antigen (HBsAg), and HIV and HCV viral loads.
PCR testing was conducted on urine samples collected in participants' cells for *Chlamydia trachomatis* and *Neisseria gonorrhoea.* While recruitment is ongoing (desired sample size: 1,176), preliminary results are presented.
Results: From October 7, 2024 to January 20, 2025, 379 participants were recruited from L'Établissement de Détention de Montréal (100% male; median age: 36 years; 56 (18%) ever injected drugs; median sentence: 160 days). Among these, 262 (69%) chose a peer-collected DBS method. Prevalence estimates were 0.7% (2/305) for anti-HIV antibodies (0/2 undetectable viral load), 1.0% (3/305) for HBsAg, 5.2% (16/305) for anti-HCV antibodies (1/16 detectable viral load), and 5.2% (16/305) for syphilis EIA. The median turnaround time from DBS collection to results was 22 days [range 18-28 days]. Urine prevalence estimates were 1.5% (5/343) and 0.6% (2/343) for *Chlamydia trachomatis* and *Neisseria gonorrhoea*, respectively.
The median turnaround time from urine collection to results was 10 days [range 7-12 days]. One-quarter (24.0%; 71/296) of participants were released from prison prior to test results, among whom 43.7% (31/71) could not be reached post-release.
Conclusions: Preliminary results among people in Quebec provincial prisons demonstrate high hepatitis B, C, and syphilis prevalence estimates compared to the general population, underscoring significant public health concerns and unmet needs.
While enhanced testing and treatment for STBBI both within and beyond carceral settings is imperative to curb transmission and meet Canada's elimination goals, point-of-care testing should be prioritized to improve linkage to care.

EP0233

Improving HIV care for female adolescents and young people in Rwanda's rehabilitation centers: insights from Gitagata, Nyamagabe, and Iwawa

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Background: Adolescents and young people (AYP) aged 10-24 in Rwanda's rehabilitation centers (RCs) face significant challenges in accessing HIV services. This study, led by the Rwanda Network of People Living with HIV (RRP+) in collaboration with the Rwanda Biomedical Center (RBC), aimed to assess HIV prevalence and the quality of HIV services provided to AYP in Gitagata, Nyamagabe, and Iwawa RCs.

Description: From March to July 2024, the study covered 7,537 residents, including 925 females (12.2%), across three RCs. Routine health screenings were conducted, and quantitative surveys and qualitative interviews with healthcare providers and residents were used to collect data. The study mapped HIV services, identified gaps in service delivery, and explored barriers to care.

Lessons learned: The HIV prevalence among the 7,537 residents of the RCs was 5.4% (n=402), exceeding the national prevalence rate of 3%. Gitagata had the highest prevalence at 13.6% (n= 925), predominantly among females, followed by Iwawa with 257 (5.1%, n= 5,037), and Nyamagabe with 19 (1.2%, n= 1,575). Despite the high HIV burden, only one RC (33.3%) had a dedicated HIV care space, and one (33.3%) could initiate antiretroviral therapy (ART). None of the centers employed medical doctors. Healthcare providers lacked specialized HIV care training. HIV prevention services were underutilized due to stigma and confidentiality concerns. Qualitative findings revealed significant gaps in mental health support and post-discharge follow-up. Participants highlighted the need for better coordination between RCs and external health services to ensure continuity of HIV care, especially for female residents at Gitagata.

Conclusions/Next steps: Critical gaps in HIV care exist in Rwanda's RCs, particularly at Gitagata, where the high prevalence among female residents requires urgent attention. Establishing a dedicated HIV care space, offering gender-sensitive interventions, enhancing staff training, improving mental health services, post-discharge follow-up, and strengthening coordination with external health services are essential next steps. Scaling these efforts across all RCs is crucial for comprehensive HIV prevention and treatment to improve health outcomes for AYP.

EP0234

Testosterone effects on sexual health in transgender men: feasibility study of an oral intervention (TEST-F)

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Background: Transgender men (TM) have a disproportionately high incidence of STIs compared with cisgender women (CW). Nearly half of TM use testosterone treatment (TT). Preliminary studies suggest that TT leads to a low Lactobacillus (LL) microbiota profile in TM, which may contribute to elevated HIV/STI risk.

However, longitudinal studies and interventional trials targeting vaginal health in TM on TT are lacking. TEST-F aimed to provide additional data about TT effects on vaginal microbiota and assess feasibility and acceptability of an oral Lactobacillus probiotic complex to improve vaginal health.

Methods: Healthy TM, ages 18–45 years, receiving TT for ≥6 months and no genital surgery were enrolled. We collected sociodemographic, clinical, and sexual history data. Baseline testing included HIV screens and vaginal swabs (gonorrhea, chlamydia, Nugent score, Molecular-BV based on 16S rRNA sequencing).

Participants were 1:1 randomized to a daily oral probiotic (L. acidophilus GLA-14 and L. rhamnosus HN001) or placebo (maltodextrin) for 4 weeks with repeated vaginal testing, clinical and acceptability assessments.

Results: 29 TM enrolled between 8/14/2024 and 11/21/2024, mean age 26.7 (20-37); 38% queer, 14% gay, 21% bisexual, 10% pansexual. Race/ethnicity: 62% White, 21% African-American and, 21% Hispanic/Latinx.

In the 6 months prior to enrollment, 32% reported receptive anal, 34% receptive vaginal sex and 72% reported vaginal symptoms (dryness, itching, discharge, pain).

At baseline only 8 (27.6%) had normal Nugent scores (0-3), and 25 (86%) had a LL microbiota (i.e. molecular-BV). 14/29 received active drug.

Although not powered for efficacy, we noted 15% increase in Lactobacillus relative abundance in the intervention group and increase in proportion with normal Nugent scores from 28.6% to 35.7%.

Adjusting for baseline scores, treatment group demonstrated higher odds of normal Nugent scores OR 2.19 (0.34-14.3) p=.411 after 1 month intervention.

Conclusions: TEST-F confirmed the LL microbiota in TGM receiving TT and the need for novel, effective interventions to reverse these effects. The probiotic intervention was well tolerated and study procedures acceptable to participants.

We showed a trend to improved Nugent scores, although limited by small sample size. We propose a larger clinical trial to investigate the efficacy of the Lactobacillus probiotics intervention on BV and STI outcomes.

EP0235

Clinical and epidemiological analysis of community-acquired bacterial pneumonia in people living with HIV in Argentina: impact of a history of freebase cocaine use

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Background: Drug use, including freebase cocaine (paco), is associated with higher HIV incidence and poor antiretroviral therapy (ART) adherence. In Argentina, 0.5% of the population uses paco. Its respiratory and psycho-neurological damage leads to health risks for people living with HIV (PLHIV).
This study aimed to compare clinical and etiological characteristics of community-acquired bacterial pneumonia (CABP) in PLHIV who use paco versus non-users.
Methods: Descriptive, retrospective analysis of medical records from PLHIV with CABP during 2022 treated at a tertiary-level hospital in Buenos Aires, Argentina. CABP was defined as compatible clinical and imaging findings, bacterial isolation from respiratory and/or blood samples, and no hospitalization in the preceding 30 days.
Statistical analysis: categorical variables: absolute values and proportions; continuous variables: median and interquartile range. Comparative analysis: Mann-Whitney U test, t-test, Chi-square test, and Fisher's test. Significance level: p<0.05.
Results: Users of paco had a median CD4 of 167 cel/ml; 39.3% abandoned ART and 16% had viral load <40 cop/ml; no significant difference was observed between groups. Users of paco experienced greater socioeconomic vulnerabilities: 36.8% of homelessness and 21.4% being transgender women.
In *Table 1:* sociodemographic characteristics and habits; *Table 2:* clinical and etiological attributes.
Streptococcus pneumoniae was more frequently isolated in users of paco. *M. catarrhalis* and *S. aureus* had similar incidence in both groups. Vaccination rates were very low: 3.7% fully vaccinated for *S. pneumoniae* and 6% for influenza; no significant difference was observed between groups.

	History of paco use: no (n = 58)	History of paco use: yes (n = 28)	p value
Age median (IQR)	43 (35 - 48.75)	36 (30 - 42)	0.015
Gender			0.069
- Cisgender men n (%)	35 (60.3)	12 (42.9)	
- Cisgender women n (%)	20 (34.5)	10 (35.7)	
- Transgender women n (%)	3 (5.2)	6 (21.4)	0.053
People experiencing homelessness n (%)	3 (7.7)	7 (36.8)	0.001
Alcohol consumption n (%)	21 (36.8)	15 (57.7)	0.124
Tobacco use n (%)	37 (64.9)	23 (88.5)	0.050

Table 1.

	History of paco use: no (n = 58)	History of paco use: yes (n = 28)	p value
Bacterial isolation:			
- Streptococcus pneumoniae n (%)	14 (24.1)	16 (57.1)	0.006
- Haemophilus influezae n (%)	40 (69.0)	13 (46.4)	0.076
Management:			
- Required admission n (%)	40 (69)	20 (71.4)	0.999
- General ward n (%)	33 (56.9)	17 (60.7)	
- ICU n (%)	7 (12.1)	3 (10.7)	
- Total admission days median (IQR)	15 (10.5 - 34)	9 (3.75 - 20.5)	0.030
- Required mechanical ventilation n (%)	4 (6.9)	2 (7.1)	0.999
Deaths n (%)	3 (5.2)	3 (10.7)	0.622

Table 2.

Conclusions: This is the first study to describe CABP in PLHIV who use paco in whom socioeconomic vulnerabilities are highlighted. *S. pneumoniae* was the main etiological agent, emphasizing the urgent need for improved vaccination coverage strategies. Research efforts need to be directed towards a better understanding of key population characteristics, enabling the design of more effective public health interventions.

EP0236

Prevalence and determinants of depressive symptoms among key population on ART at Gobabis Walvis Bay Corridor Group (WBCG) clinic, in Omaheke region - Namibia. A cross-sectional prospective study

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Background: Globally it's estimated that 1 in every 8 people experiences a mental disorder and the risk is twice higher among PLHIV with depression and anxiety disorders commonest among them. Undetected mental health problems can have a profound effect on adherence, clinic attendance, and disease progression in PLHIV. In Namibia, data on mental health in PLHIV are scarce although the Ministry of Health introduced screening tools in the latest ART care booklet.
We aimed to estimate the prevalence and factors associated with depressive symptoms among clients attending this facility, which offers specialized care to PLHIV members of key populations (female sex workers -FSW, transgender-TG, and men who have sex with men -MSM).
Methods: We conducted a cross-sectional quantitative study at Gobabis WBCG clinic. We extracted socio-demographic and clinical characteristics in medical records including the PHQ 9 and alcohol screening scores of clients seen at the facility between December 2023 and June 2024. Only results of the first encounter with clients during

the study period were considered and depressive symptoms were considered positive in clients who scored ≥ 5 on the PHQ-9.

Collected data were analyzed using Stata software version 18. The occurrence of depressive symptoms in different demographic categories was assessed using chi-square tests, with the level of significance set at 0.05.

The multivariate logistic regression model was used to estimate the associations between variables and depressive symptoms presentation.

Results: All 98 clients from key populations seen during the study period were enrolled. 62(63.3%) females and 36(36.7%) males, 53(54%) were FSW, and 28(28,6%) MSM. In total, 15(15.3%;95CI9.3%-24%) had depressive symptoms. Among them, 8(53.3%) were females, and 7 (46.7%) males. Being married (p= 0.015), TG (P=0.031), and moderately harmful alcohol risk (p=0.033) were significantly associated with having depressive symptoms in univariable analysis. In the multivariable logistic regression model being married OR 8 (95CI;1.2-56) and TG OR 11(95CI;1.8-64) remained significantly associated to depressive symptoms.

Conclusions: Presentation with depressive symptoms is common among key populations on ART at this clinic associated with being married, TG, and having moderate-harmful alcohol risk behavior. These results underscore the need to strengthen screening and management of mental health in these special populations.

EP0237

Viral load suppression among key populations: Who is left behind? Evidence from a retrospective study in Zimbabwe

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Background: The World Health Organization reports that Zimbabwe has achieved HIV epidemic control, with at least 95% of individuals on antiretroviral therapy (ART) achieving viral suppression. However, there are evidence gaps on whether all key demographics meet viral load (VL) suppression targets. Population Solutions for Health (PSH), funded by the United States Agency for International Development (USAID) and in collaboration with the Ministry of Health and Child Care (MoHCC), conducted a retrospective study among female sex workers (FSW), men who have sex with men (MSM) and transgender persons (TG) to measure viral load suppression of the PEPFAR-funded program cohort and ascertain factors influencing this outcome.

Methods: We analyzed a cohort of key populations living with HIV enrolled in care between October 2021 and September 2024, using data from an electronic management system (BAHMNI). Data were analyzed using STATA 17, starting with calculation of VL suppression as a point estimate and plotting 95% confidence intervals.

Logistic regression modeling was employed to evaluate factors associated with VL suppression, adjusting for sex, residence, age, key population status, and duration on ART.

Results: A total of 15,157 unique individuals underwent at least one VL test during the study period, with 627 (4.1%, 95% CI: 3.8-4.5) being virally unsuppressed. Among those 15 years and under, 17.8% were unsuppressed, compared to 8.8% in the 20–24 years and only 1.2% among those 50 years and older. We found that older individuals were more likely to be suppressed, with 20–24-year-olds six times more likely to be unsuppressed than those 50 years and older (p<0.001).

Also, individuals who have been on ART for 1-2 years were 2.39 times more likely to be unsuppressed than those on ART for at least 7 years (p=0.006). VL suppression did not vary by sex, residence, or key population type.

Conclusions: Viral load suppression was significantly lower in younger age groups, who are more likely sexually active and at higher risk for HIV transmission, potentially jeopardizing epidemic control gains.

Strengthening ART adherence especially among the younger age groups and those with fewer years on treatment, and expediting ART linkage, is essential to sustain this critical milestone.

EP0238

Prevalence of STI symptoms and access to healthcare among female sex workers in Rwanda: findings from the IBBSS 2023

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Background: Female sex workers (FSWs) in Rwanda face a significant burden of sexually transmitted infections (STIs), which increases their vulnerability to adverse health outcomes. This study, part of the Integrated Bio-Behavioral Surveillance Survey (IBBSS) 2023, aimed to assess the prevalence of STI symptoms and healthcare-seeking behaviors among FSWs in Rwanda.

Methods: The IBBSS 2023 was a cross-sectional study involving 2,541 FSWs aged 15 years and above. Data on STI symptoms within the past 12 months and associated healthcare-seeking behaviors were collected through structured interviews. Prevalence estimates were calculated with 95% confidence intervals (CIs), and the data were disaggregated by symptom type and healthcare access.

Results: Overall, 60.4% (95% CI: 56.8–63.8) of FSWs reported experiencing STI symptoms in the 12 months preceding the survey. Among them, 32.3% reported having an ulcer or sore and 40.3% experienced abnormal vaginal discharge.

Among those who reported ulcers or sores, only 69.9% (95% CI: 64.0–75.3) sought healthcare services, highlighting barriers to healthcare access.

Additionally, 12.1% (95% CI: 10.0–14.6) reported noticing ulcers or sores on their partners during the same period. Despite the high prevalence of STI symptoms, significant gaps remain in healthcare utilization. Approximately 30.1% (95% CI: 24.7–36.0) of FSWs who experienced ulcers or sores did not seek care, underscoring the urgent need for targeted interventions.

Conclusions: The high prevalence of STI symptoms and suboptimal healthcare-seeking behaviors among FSWs in Rwanda indicate critical gaps in STI prevention, access to and condom use and other care services.

Interventions should focus on improving access to affordable, stigma-free healthcare, increasing awareness of STI symptoms and addressing barriers to healthcare-seeking behaviors.

These efforts are essential to mitigate the STI burden and enhance overall health outcomes for FSWs in Rwanda. Further research should explore the underlying reasons for limited healthcare access and develop evidence-based strategies to improve STI management among this vulnerable population.

EP0239

Evaluating social support, psychological distress, and HIV-related stigma in a cohort of ART-experienced migrant adults living with HIV switched to B/F/TAF in Montreal, Canada – the ASAP-Switch Study

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Background: In Canada, many migrant people living with HIV (MLWH) are referred for HIV care with limited known clinical history and antiretroviral treatments (ART) that are either unavailable or incompatible with local guidelines. MLWH often face important psychosocial challenges that interfere with their care. We evaluated the degree of social support, psychosocial distress, and HIV-related stigma among MLWH enrolled in a cohort testing the feasibility of free-of-charge ART switch.

Methods: In May 2024, we initiated a 52-week prospective cohort at a hospital-based clinic in Montreal (Canada) – Antiretroviral Speed Access Program Switch Study (ASAP-Switch). ART-experienced MLWH recently arrived in Quebec (<2 years) were switched free-of-charge to Bictegravir/Emtricitabine/Tenofovir-Alafenamide (B/F/TAF). The rapidity of the switch was measured as the time to B/F/TAF initiation from first clinic visit. We measured social support with the 8-item Medical Outcomes Study Social Support Survey (MOS-SSS), with higher scores on an averaged 0–100 scale indicating better support. The 6-item Kessler Psychosocial Distress Scale (K6) was used to assess absence (0-18) or presence (9-30) of serious mental illness. HIV-related stigma was measured using the 6-point AIDS-Related Stigma Scale, with higher scores indicating greater internalized stigma. We computed descriptive statistics of socio-demographic and psycho-social variables collected at baseline.

Results: As of December 2024, 20/50(40%) participants have been recruited, prescribed B/F/TAF in a median (m) of 6 days from first clinic visit (Interquartile range [IQR]=0-19), and completed at least 4/72 weeks of follow-up.

Among these, 17/20(85%) are active participants (3 withdrawals); 9/17(53%) are female; 13/17 (76%) are aged <50 years; and 10/17 (59%) are heterosexual. At baseline, concerning social support, mean score on the MOS-SSS was 31 (Standard Deviation=14.2).

Most participants did not meet criteria for serious mental illness on the K6 scale (m=10; IQR=6-14) and HIV-related stigma median score was 2/6 (IQR=1-3).

Conclusions: Psychological distress and stigma were low in 17 MWH rapidly switched to B/F/TAF, despite limited reported social support. Monitoring these mental health indicators along the HIV care cascade and offering tailored mental health interventions could improve their care.

EP0240

Strengthening the continuum of care for key populations: insights from female sex workers (FSWs)

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Background: Female Sex Workers (FSWs) face barriers to accessing healthcare, which exacerbates their vulnerability to HIV and other sexually transmitted infections (STIs). Despite targeted services, gaps remain in healthcare engagement, linkage to care, and treatment adherence.

This study investigates factors associated with healthcare engagement and its impact on viral suppression among FSWs in Rwanda, leveraging respondent-driven sampling (RDS) to ensure representative findings.

Methods: A cross-sectional study was conducted in 2023 among 2,541 FSWs recruited through respondent-driven sampling in 10 urban districts of Rwanda. Data were collected through structured interviews and validated with clinical records. Variables included peer support, access to health facilities, economic empowerment programs, and stigma experiences. Weighted multivariable logistic regression and structural equation modeling (SEM) were employed to explore associations and pathways between predictors, healthcare engagement, and viral suppression.

Results: Among participants, 80.1% (95% CI: 77.0-82.8) engaged to use healthcare services, while 19.9% experienced interruptions. Peer support (adjusted odds ratio [aOR]: 3.45, 95% CI: 2.12-5.62, p < 0.001) and access to health facilities (aOR: 2.98, 95% CI: 1.88-4.72, p < 0.001) were the strongest predictors of healthcare engagement. Economic empowerment also contributed positively (aOR: 1.92, 95% CI: 1.12-3.28, p = 0.016).
Consistent engagement significantly improved viral suppression rates (84.6% vs. 43.2%, p < 0.001). SEM analysis demonstrated that stigma indirectly influenced viral suppression through reduced engagement in care (β = -0.39, p < 0.001).
Conclusions: Strengthening the continuum of care for FSWs requires scaling up peer-led interventions, enhancing access to community-based services, and integrating economic empowerment initiatives. Addressing stigma through targeted programs is critical to improving healthcare engagement and viral suppression rates. These findings underscore the need for scalable, context-specific interventions to close gaps in care for FSWs in resource-limited settings.

Epidemiology of HIV

EP0241

Establishment of non-invasive diagnostic prediction model for HIV positive asymptomatic neurosyphilis patients

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Background: Due to the invasive nature of lumbar puncture, this makes it challenging to perform comprehensive neurosyphilis (NS) screening in HIV-infected patients with a positive serum syphilis test, especially in asymptomatic patients, and it is critical to construct an effective NS diagnostic prediction model to improve diagnostic accuracy and reduce missed diagnoses. To develop a non-invasive method for diagnosing asymptomatic neurosyphilis in HIV-infected patients to reduce unnecessary trauma in patients.
Methods: This study included persons with HIV admitted at the Second Hospital of Nanjing from January 2013 to September 2024, who had a positive syphilis serology and underwent a lumbar puncture (LP) for NS screening. Missing data were replaced using a multiple imputation. The data was randomly divided into training and testing groups at a 7:3 ratio. Logistic regression and LASSO regression analysis were used to determine independent risk factors.
Validation methods for training and testing models included ROC, approximately equal index, sensitivity, specificity, calibration curve, Decision curve analysis(DCA), and Clinical impact curves(CIC).
Results: From 718 participants initially identified for the study, we excluded 158 who reported symptoms attributable to NS and 16 who had other central nervous system conditions. The final sample included 544 participants. Multivariable logistic regression analyses showed that sero-TRUST, CD4+T lymphocyte percentage, and Magnetic resonance imaging shows lacunar infarction (MRI-lacunar infarction) increased the risk of NS, while the CD4/CD8 ratio decreased the risk of NS.LASSO regression analysis included age, VL, CD4/CD8, CD4 percentage, and MRI-lacunar infarction into the diagnostic prediction model. Area under the ROC values showed moderate discrimination for both the test model (AUC:0.752) and the training model (AUC:0.795). The calibration curve and Hosmer-Lemeshow test indicate that both models were well-calibrated. The results of decision curve analysis and clinical impact curve showed that the application of this model could achieve clinical benefits, and it was found that the model was stable in different subgroups (syphilis treatment, ART) in different subgroups
Conclusions: NS is highly influenced by age,SERO-TRUST, VL,CD4/CD8, CD4+T lymphocyte percentage, and MRI-lacunar infarction. Our model can support clinicians in identifying ANS among persons with HIV even when a LP is not available.

EP0242

Evaluation of characteristics and clinical outcomes in advanced HIV disease patients: insights from the USAID *Fahari ya Jamii* Project – a retrospective study

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Background: About 20-35% of people living with HIV (PLHIV) present with advanced HIV disease (AHD) in Sub-Saharan Africa. PLHIV with AHD have worse outcomes than those presenting well due to severe opportunistic diseases and other comorbidities. The common causes of mortality include Tuberculosis, Cryptococcal meningitis, severe bacterial infections, and end-organ damage.
Many determinants of health comprising age, sex, socio-economic status, access to health, and health-seeking behaviors, influence the promptness of HIV diagnosis. *Fahari ya Jamii* (FYJ) project sought to evaluate the characteristics and clinical outcomes of clients presenting with AHD.
Methods: We conducted a retrospective cohort study in Nairobi and Kajiado County health facilities supported by USAID FYJ project among PLHIV older than 15 years and newly started on anti-retroviral therapy (ART) between

October 2022 and September 2024. Identified clients were categorized as having AHD if they had CD4+ count less than 200 cells/ml or World Health Organization (WHO) clinical stage 3 or 4. Data was extracted from electronic medical records (EMR) using a table created in Microsoft Excel. The clinical outcomes of interest included linkage to ART, treatment adherence, viral load testing, and viral load suppression We compared socio-demographic and clinical characteristics of the two categories of patients using multivariate regression and survival analysis.

Results: A total of 9654 PLHIV records were extracted from the EMR and the prevalence of AHD was 21%. Clients with AHD were more likely to be older than 35 years, have lower than high school education, be males, and reside in rural zones. Those with AHD had more than double the odds for developing chronic kidney disease and mental illness (OR=2.52, p<0.001). AHD clients took longer to initiate ART (χ^2=72.241, p=0.001) and had lower viral load suppression (p<0.001). No significant difference was noted in occupation, time to viral load testing, adherence level, and ART regimen type.

Conclusions: Both socio-demographic and clinical characteristics are associated with AHD. People with AHD are at a higher risk for poorer outcomes due to comorbidities and delayed linkage to ART. All AHD clients should receive the WHO-recommended package of care to ensure rapid initiation of ART and intensified monitoring for complications.

EP0243

Incidence of renal insufficiency and chronic kidney disease in people living with HIV: findings from South Africa's National Health Laboratory Services Multi-morbidity Cohort

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Background: Kidney disease is a global health challenge with high morbidity and mortality. People living with HIV (PLWH) are at increased risk of renal insufficiency (RI) and chronic kidney disease (CKD) due to HIV viral effects, inflammation, immune dysfunction, and antiretroviral therapy (ART) toxicity. Data on RI and CKD incidence are scarce, especially in low- and middle-income countries.

Methods: Using South Africa's National Health Laboratory Services (NHLS) Multi-morbidity Cohort (2012-2016), we examined incident RI and CKD rates in PLWH (18–85 years) with normal baseline creatinine (eGFR >60 mL/min/1.73m²). RI was defined as one eGFR <60, and CKD as two eGFRs <60, 3–12 months apart. Follow-up spanned 1–6 years, ending at CKD, RI, or the last NHLS lab result of any type. Crude incidence rates (per 1000 PYs) were calculated overall and by HIV severity (VL >1000 copies/mL; CD4 <350 cells/mm³). Cox regression models were used to estimate RI and CKD risk adjusted for age, sex, TB, diabetes, and province.

Results: Among 1,370,095 PLWH, 158,879 (11.6%) experienced RI and 3,479 (0.3%) developed incident CKD (Table). Over a median follow-up time of 1.8 years (Q1, Q3: 0.003, 3.8), the crude rate of RI was 57 per 1000 PYs (95% CI: 56.9, 57.5) and the crude rate of CKD was 1.2 per 1000 PYs (95% CI: 1.21, 1.30). HIV severity did not affect RI risk, but incident CKD risk was 7% higher in PLWH with CD4 ≤350 cells/mm³ (vs. >350) and 53% higher in those with VL ≥1000 copies/mL (vs. <1000).

Table. Risk of incident renal insufficiency (RI) and chronic kidney disease (CKD) among people living with HIV in South Africa, overall and by HIV severity.

	Total N	N (%) events	Total person-time (years)	Incidence rate per 1000 PY (95% CI)	Crude HR (95% CI)	Adjusted HR[3] (95% CI)
Outcome: RI event[1]						
Overall	1,370,095	158,876 (11.6)	2,776,046	57 (56.9, 57.5)	-	-
HIV severity						
CD4 > 350 cells/mm³	922,406	106,759 (11.6)	1,869,686	57 (56.8, 57.4)	ref.	ref.
CD4 ≤ 350 cells/mm³	447,689	52,118 (11.6)	906,360	57 (57.0, 58.0)	1.01 (1.00, 1.03)	1.02 (1.00, 1.03)
Viral load < 1000 copies/mL	124,474	14,282 (11.5)	253,443	56 (55.4, 57.3)	ref.	ref.
Viral load ≥ 1000 copies/mL	1,245,594	144,594 (11.6)	2,522,603	57 (57.0, 57.6)	1.01 (1.00, 1.02)	1.00 (0.99, 1.01)
Outcome: Incident CKD[2]						
Overall	1,370,095	3,479 (0.3)	2,776,046	1.2 (1.21, 1.30)	-	-
HIV severity						
CD4 > 350 cells/mm³	922,406	2,281 (0.3)	1,869,686	1.2 (1.17, 1.23)	ref.	ref.
CD4 ≤ 350 cells/mm³	447,689	1,198 (0.3)	906,360	1.3 (1.25, 1.40)	1.08 (1.01, 1.16)	1.07 (1.00, 1.15)
Viral load < 1000 copies/mL	124,474	214 (0.2)	253,443	0.8 (0.74, 0.96)	ref.	ref.
Viral load ≥ 1000 copies/mL	1,245,594	3,265 (0.3)	2,522,603	1.3 (1.25, 1.34)	1.53 (1.34, 1.76)	1.53 (1.34, 1.76)

[1]Incident Renal Insufficiency (RI) defined as a singular eGFR < 60 mL/min/1.73m².
[2]Incident CKD defined as two eGFRs < 60 mL/min/1.73m² taken 3-12 months apart.
[3]Adjusted for sex, age at first CKD, diabetes mellitus status, tuberculosis status, and province.

Conclusions: In our South African NHLS cohort >10% of PLWH with normal kidney function at baseline developed RI over follow-up. CKD risk was higher in those with low CD4 counts or high VLs. Routine monitoring, early detection, and effective ART are crucial to managing CKD and improving outcomes, especially in immunosuppressed individuals.

EP0244

Prevalence and determinants of viral suppression in Young People Living with HIV on antiretroviral therapy in Southern Africa: a cross-sectional analysis of HIV survey data of 2020 and 2021

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Background: Young People Living with HIV (YPLHIV, 15 – 24 years) are an important demographic of Persons Living with HIV (PLHIV) globally and in Southern Africa. However, YPLHIV experience poor outcomes across the HIV diagnostic and treatment cascade due to multiple factors. Therefore, we estimated the prevalence and determinants of HIV viral suppression in YPLHIV on antiretroviral therapy (ART) in selected Southern African countries.

Methods: We used publicly available data from Malawi, Zimbabwe, Mozambique, Lesotho, and Eswatini collected during the Population-based HIV Impact Assessments (PHIAs) of 2020 to 2021.

Weighted proportions, and 95% confidence intervals (CI) were computed to estimate the prevalence of viral suppression (<1000c/ml) and bivariate and multivariate logistic regression analyses were conducted to identify determinants of viral suppression.

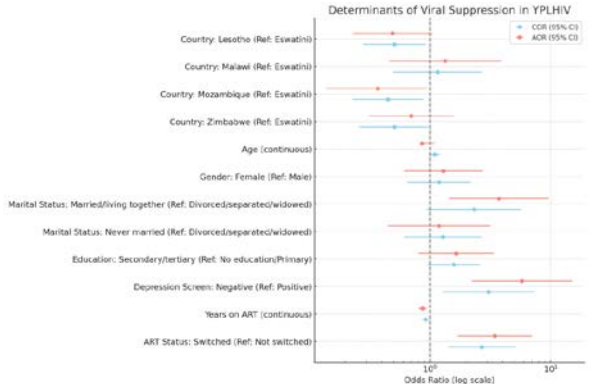
Variables that had a p-value of <0.2 in the bivariate analyses were specified in the multivariate logistic regression model.

Significant determinants were based on post-adjustment confidence intervals in the regression model.

Results: A total of 855 records of YPLHIV on ART were included in the analysis. The prevalence of viral suppression in YPLHIV on ART was 82.4% (95% CI: 76.7, 86.9).

Residing in Mozambique and duration on ART were inversely associated with viral suppression; adjusted odds ratios (AORs) of 0.37 (95% CI: 0.14, 0.95), and 0.87 (95% CI: 0.80, 0.94), respectively.

A negative result in the depression screen, being married/cohabitating, and ever switching an ART regimen were positively associated with viral suppression: AORs of 5.78 (95% CI: 2.21, 15.11), 3.72 (95% CI: 1.44, 9.63), and 3.44 (95% CI: 1.69, 7), respectively.



Conclusions: Our analysis showed that YPLHIV had sub-optimal viral suppression prevalence. Therefore, evidence informed interventions such as expanding mental health care access and screening programs in low-resource settings for YLPHIV on ART could be implemented to potentially improve viral suppression in this demographic.

EP0245

Characterizations of mobile populations and their HIV outcomes in Rakai, Uganda, 2021-23

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Background: Mobility can come in many forms that may differentially affect access to health services and HIV transmission. We characterized mobility patterns and HIV outcomes in Uganda to identify gaps and opportunities in HIV programs.

Methods: This cross-sectional study utilized population-based Rakai Community Cohort Study data (2021-2023). Latent class analyses identified migrant (changed residence in the past 1-2 years) and traveler (spent >1 night away from home in the past year) subclasses based on social, spatial, and temporal mobility metrics. Age-adjusted prevalence ratios compared HIV-related outcomes (prevalence, viremia >200 copies/mL, HIV testing in the past year, status awareness, ART/PrEP use, and circumcision) between mobile and non-mobile groups by gender. Estimates were corrected for selection bias using inverse probability weights informed by enhanced tracing of survey-eligible mobile participants away during the survey.

Results: Of 27,294 eligible participants, 15,464 (57%) completed interviews and HIV testing. Of 10,732 away during interviews, 1,664 (16%) were successfully traced and informed weighted analyses. Among initial participants, migrants included 753 (4%) who moved between households in their local community, 2,353 (15%) who moved within the broader Rakai region, 1,057 (7%) who in-migrated to the region, 847 (5%) who returned to their household after living elsewhere, and 308 men (2%) who moved between households for polygamy.
Travelers included those who were away <1 week (n=2,029, 13%), 1-4 weeks (1,468. 9%), >1 month for social reasons (1,984, 13%), >1 month for opportunity (work or school) (1,224, 8%), and in Kampala for opportunity (568, 4%). With 30.3% (95% CI: 25.1-35.5%) HIV prevalence, women moving within their community had double the prevalence of non-migrant women (PR: 2.03 [1.63-2.52]); this was not true for men. Women and men in-migrating from outside the region had 4.20 (2.65-6.64) and 2.06 (1.19-3.59) times higher viremia prevalence than non-migrants, respectively. Women traveling for opportunity had 26% (15-35%) lower HIV testing coverage than non-travelers, while most classes of male travelers had higher coverage than non-travelers.
Conclusions: Mobile populations had heterogenous HIV burdens that varied by gender. Populations with high HIV prevalence and viremia should be prioritized to reduce transmission. Tailored strategies for mobile populations may be needed to close service gaps.

EP0246

Sex differences in cardiovascular disease and associated factors in people with HIV among underrepresented population

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Background: People with HIV (PWH) face a higher risk of cardiovascular disease (CVD). Sex differences in CVD risk are especially important given its historical disparities in cardiovascular care. However, sex-specific mechanisms of HIV-associated CVD are incompletely understood.
Using a nationwide database, our study aimed to compare the sex differences in CVD events among PWH and investigate the factors driving such differences in CVD events.
Methods: We utilized data from All of Us program,which includes a diverse group of historically underrepresented US populations in biomedical research. We used computational phenotyping to identify the HIV cohort. CVD was defined as a composite of coronary artery disease or stroke, which was identified by the presence of corresponding ICD-9 and ICD-10 codes or affirmative responses in survey questions. Logistic regression models were used to investigate associated factors and biomarkers on sex differences in CVD events.
Results: A total of 4,374 PWH were included, with females having a higher CVD prevalence than males (25.8%, 340/1,318 vs 21.9%, 670/3,056). Regression results showed among female PWH higher CD4 counts (≥500 cells/mm^3: OR=0.26, 95% CI: 0.14-0.48; 350-500 cells/mm^3: OR=0.30, 95% CI: 0.13-0.64) were associated with a lower CVD risk, while Black or African American race (OR=1.68, 95% CI: 1.04-2.79) was associated with a higher CVD prevalence.
No such associations were found in male PWH. Hypertension, hyperlipidemia, and not being employed for wages were associated with a higher CVD risk in both sexes.
For male PWH, obesity (OR=0.66, 95% CI: 0.49-0.88) and no insurance (OR=0.29, 95% CI: 0.13-0.56) were associated with lower CVD risk, while age groups 45-54, 55-64, and $25k-$50k annual income were correlated with a higher CVD risk. In terms of biomarkers, low High-Density Lipoprotein Cholesterol (HDL-C) levels were associated with higher CVD risk in males (OR=1.67, 95% CI: 1.25-2.23) but not in females.
Conclusions: There are common risk factors (e.g., hypertension, hyperlipidemia) for CVD development in both sexes. However, HIV-specific factors seem to play an important role for female PWH, while unfavorable inflammatory biomarker (HDL-C) was more likely to exist in male PWH. It is essential to implement targeted strategies to reduce CVD risk among PWH of different sexes.

EP0247

Impact of antiretroviral therapy on liver fibrosis and survival among people with HIV in an ethnic minority prefecture, Southwestern China: a 20-year retrospective cohort study

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Background: Liver complications have emerged as significant burden and causes of death for people with HIV (PWH) in the era of antiretroviral therapy (ART). Little is known regarding the role of ART in liver fibrosis among PWH prone to liver injury in underdeveloped regions.
Methods: We conducted a retrospective cohort study of PWH receiving ART in Dehong Prefecture of Yunnan Province, Southwestern China, where comprehensive AIDS care programs including free ART have been implemented since 2004. All PWH on ART with available serostatus of HBsAg and anti-HCV antibody during 2004-2024 were subject to analysis. Demographic data and laboratory measurements were extracted from the electronic medical database. Liver fibrosis (LF) was determined by FIB-4 score (age [years]×AST [IU/L]/(PLT count [10^9/L]×ALT$^{1/2}$[IU/L])) with three categories: Class 1 (normal), <1.45; Class 2 (medium), 1.45-3.25; Class 3 (heavy), >3.25.

Results: Of 6774 participants, 40.7% aged over 50 years, 61.8% were male, 61.2% were ethnic minorities, 60.8% were illiterate or educated at primary school and 24.9% acquired HIV through injecting drugs. The proportion of living with mono-HIV, HIV/HBV, HIV/HCV and HIV/HBV/HCV was 69.9%, 5.5%, 22.6%, and 2.0%, and the proportion of LF at normal, medium and heavy status was 60.2%, 27.4% and 12.4%, respectively. The median follow-up period was 8.73 years (IQR: 3.68-11.72).

Improvement to a lower LF class was observed in Class 2 (55.4%) and Class 3 (85.5%), respectively. Progression to a higher LF class was observed in Class 1 (47.9%) and Class 2 (11.0%), respectively. 1343 deaths occurred and the all-cause mortality was 2.2 per 100 PY.

Multiple Cox regression analysis showed that participants who were older, male, ethnic minors, lower educated, HIV/HCV co-infected, drug users, with low CD4 levels and LF had higher risks of death.

Conclusions: More improvement than progression of liver fibrosis was gained in PWH following ART. The effect of ART on liver fibrosis improvement in individuals living with HIV/HCV fell short compared to that in other co-infection status. It is warranted to provide direct-acting antiviral (DAA) therapy for PWH with HCV coinfection, especially for ethnic minority men with a low educational level in underdeveloped regions.

EP0248

Trends in HIV-1 incidence among adolescent girls and young women (AGYW): a longitudinal population-based cohort in Mid-Western and Central Uganda

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Background: Adolescent girls and young women (AGYW) account for the majority of new HIV infections in sub-Saharan Africa. HIV prevention interventions such as Determined Resilient AIDS-free Mentored Safe woman/girl (DREAMS) and Pre-Exposure Prophylaxis (PrEP) services have been implemented to reduce HIV risk in this population.

However, there are a few direct estimates of HIV-1 incidence among AGYW from high-burden countries in the region exist. We estimated the incidence of HIV-1 infections among AGYW.

Methods: We conducted a longitudinal population-based study, the Africa Medical and Behavioral Sciences Organization (AMBSO) Population Health Surveillance (APHS), Hoima and Wakiso districts of Uganda. Data on AGYW aged 15-24 years collected from four successive survey rounds were analyzed to determine trends in the incidence of HIV-1 infections using on the basis of observed sero-conversion data using Cox proportional hazards models.

Results: Between 2018 and 2023, 2,619 study participants who were HIV negative at baseline contributed 1,083-person years. Mean age was 19.8 years (SD 2.8).

A total of 14 sero-conversions were observed. By 2023, the overall incidence of HIV infection was 1.29 cases per 100 person-years of observation (pyo), HIV incidence increased from 0.90 per 100 pyo (95% CI 0.29- 2.79) in 2018-2019 to 2.41 per 100 pyo (95% CI: 1.21- 4.83) in 2019-2020; and further dropped to 0.71 cases per 100-person years (95% CI 0.23- 2.22) in 2022/2023.

HIV testing service coverage decreased from 85.7% in 2018/2019, 83.5% in (2019/2020), to 78.4% in (2021/2022) and later rebounded to 80.8% by 2022/2023 (p=0.012).
Conclusions: To effectively combat HIV risk among AGYW in Uganda, comprehensive and sustained strategies are required. These should focus on enhancing access to consistent testing services, addressing barriers to prevention (including barriers in uptake of novel biomedical prevention approaches), and implementing targeted interventions that address the unique vulnerabilities of this population.

EP0249

Title: Prevalence and factors associated with advanced HIV Disease (AHD) in "Treat all" era among newly diagnosed PLHIV at Epako clinic, Omaheke region in Namibia—a retrospective cross-sectional study

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Background: In 2016 Namibia adopted the" Treat all" strategy which implies ART initiation regardless of baseline CD4 count value and WHO clinical stage. Despite this strategy, it is still common to encounter newly diagnosed PLHIV with advanced HIV disease (AHD) in the Omaheke region. However, the magnitude and characteristics of these clients are unknown.
We aimed to determine the prevalence and factors associated with AHD at Epako Clinic the main ART facility in the region.
Methods: We conducted a cross-sectional observational study using programmatic data of clients aged ≥ 15 years enrolled in ART between January 2023 and December 2024 at Epako Clinic. The client's socio-demographic and clinical characteristics were extracted from the electronic medical records. The prevalence of AHD defined as a presentation with CD4 count < 200 cells/mm^3 or WHO stage or 4 was estimated. Collected data were inputted and analyzed with the STATA software version 18. Proportions of AHD in different demographic variables were assessed using chi-square tests, with p value< 0.05 set as a statistically significant level. A multivariate logistic regression model was used to estimate the associations between variables and AHD.
Results: Among 317 newly diagnosed PLHIV, 302 were enrolled, with 161(53.3%) females, and 141(46.7%) males, clients had 35 years mean age and 20.5 kg/m^2 mean BMI. 236 clients were classified based on both CD4 and WHO staging while 66 were classified based on WHO staging only due to missing baseline CD4. In total, AHD was present in 140 (46.4%) (95CI;40%-52%); with males more affected than females (62 % Vs 38%) P<0.001.
In univariate analysis, males, 35 to 44 years age group (37%), underweight (56.4%), and TB diagnosis (51.4%) were significantly associated with AHD(P<0.001). In the logistic regression model, male gender OR 2.7; (95 CI;1.31-5.42) and being underweight OR2.7;(95CI;1.3-5.7) remained significantly associated with having AHD.
Conclusions: Presenting with advanced HIV remains common at the Epako clinic. Being male, age, and nutritional status were associated with an increased risk of having AHD. Strategies addressing males' poor health-seeking behaviors and increasing testing in males and other high-risk populations should be strengthened in the Omaheke region to reduce the rate of AHD.

EP0250

Prevalence, trends, and correlates of HIV, syphilis, and HCV among male attendees at STD clinics in Southwest China: a 13-year cross-sectional study (2010-2022)

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Background: Sexually transmitted infections (STIs) pose a significant health threat, especially among high-risk groups, but data on their long-term patterns in these populations are limited. This study aimed to assess the prevalence, trends, and factors associated with HIV, syphilis, and HCV among male individuals attending STD clinics in Southwest China.
Methods: From 2010 to 2022, annual cross-sectional surveys were conducted among male individuals attending STD clinics in Southwest China. Blood samples were collected to test for HIV, syphilis, and HCV. The Mann-Kendall test was used to analyze trends in the prevalence of these conditions, and rare event logistic regression (relogit) identified factors associated with them.
Results: This study included a total of 23,964 male individuals attending STD clinics. The prevalence of HIV, syphilis, and HCV among participants was 0.98%, 2.16%, and 0.61%, respectively. While the prevalence of syphilis and HCV decreased from 3.64% and 1.81% in 2010 to 1.05% and 0.38% in 2022, the HIV prevalence did not show a downward trend. Participants with a history of STDs had significantly increased risks of acquiring HIV (aOR = 1.90, 95% CI: 1.14-3.15) and HCV (aOR = 4.91, 95% CI: 3.22-7.49).
Participants who had ever engaged in homosexual behavior had significantly increased risks of acquiring HIV (aOR = 14.66, 95% CI: 5.49-39.14) and syphilis (aOR = 3.95, 95% CI: 1.41-13.71). Those aged 50 years and above having a higher likelihood of acquiring HIV (aOR = 2.55, 95% CI: 1.91-3.39), while those under 50 years were more likely to acquire HCV (aOR = 1.94, 95% CI: 1.19-3.16). Being married or cohabiting increased the likelihood of syphilis (aOR = 1.40, 95% CI: 1.09-1.80), and a history of injecting drug use (IDU) significantly increased the risk of acquiring HCV (aOR = 10.97, 95% CI: 5.21-23.12).

Conclusions: This study found a low prevalence of HIV, syphilis, and HCV among male individuals attending STD clinics. While syphilis and HCV prevalence declined, HIV prevalence remained stable. These findings highlight the need for ongoing, targeted prevention, especially for MSM and individuals with a history of IDU.

EP0251

Early sexual debut and HIV sero-prevalence among adult females (18-50 years): evidence from a rural and urban longitudinal cohort study in Uganda

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Background: Early sexual debut (<18 years of age) is linked to strong pointers for future poor sexual health and risky behavioral patterns. The continued decline in the median age at first sex among females in a number of countries raises a serious concern regarding associated negative health outcomes and effectiveness of HIV prevention efforts.

We present findings on early sexual debut and HIV sero-prevalence among adult females in Wakiso and Hoima Districts, Uganda.

Methods: Female participants 18-50 years participated in the AMBSO Population Health Surveillance (APHS) in 2020-2021. Sociodemographic and behavioral data including; age, education, sexual behaviors, sexual debut etc. were collected using same-sex interviewer administered questionnaires. HIV testing was done using the Uganda Ministry of Health algorithm for HIV screening and testing. Bivariate analysis assessed differences in age at sexual debut and key socio- demographic variables. Modified Poisson regression was used to assess association of age at sexual debut, HIV infection, and other covariates.

Results: The study sample was 1,802 females, HIV prevalence was 13%, mean age 30.3, (SD=8.5). More than half (60%) reported early sexual debut and 8.8% (154/1760) reported coercion at first sex. HIV prevalence was higher in women reporting early sexual debut (15.5% vs. 9.3%, P<0.001). Females who reported early sexual debut and those who reported coercion at sex debut were more likely to be HIV positive compared to their counterparts (PR=1.70, P<0.001), and (PR=1.60, P=0.007, 95% CI 1.14, 2.25) respectively. Compared to agriculture, participants doing other jobs (mining, fishing, military work etc., had a lower prevalence of HIV. PR: 0.54 (P-value =0.002, 95% CI: 0.37–0.80).

Conclusions: Early sexual debut among females is a key predictor of HIV prevalence in urban and rural Uganda. Targeted interventions for adolescent girls and young women are required for HIV prevention in this setting.

EP0252

Syndemic interactions between HIV, mental health, and non-communicable diseases in Africa: a scoping review of contributing factors

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Background: The syndemic framework provides a critical lens to examine the interwoven challenges of HIV, mental health (MH), and non-communicable diseases (NCDs) in Africa. This scoping review highlights how these conditions synergistically affect individuals living with HIV. Contextual factors such as stigma, poverty, gender disparities, and fragmented healthcare systems exacerbate these conditions, posing significant challenges to individual and public health.

Methods: A scoping review was conducted to explore syndemic interactions between HIV, MH, and NCDs across Africa. Following the PRISMA framework, literature searches were conducted in March 2024 across PubMed/Medline (OVID), Web of Science (all databases), CINAHL, Global Health, and Psychinfo.

Articles were screened independently by two reviewers, with conflicts resolved by a third. Data were extracted to summarize study characteristics, prevalence rates, and contextual factors underpinning these syndemic interactions.

Results: Of 2,706 articles screened, 207 underwent full-text review, with 17 studies included. Hypertension, diabetes, and depression were the most prevalent co-morbidities among individuals living with HIV, disproportionately affecting women and older adults. Stigma, socioeconomic barriers, and fragmented healthcare systems consistently exacerbated these conditions, hindering effective care. Many NCDs and MH conditions were undiagnosed or poorly managed, complicating HIV treatment and reducing quality of life. Resource limitations and poor healthcare integration further impeded comprehensive care delivery.

Conclusions: This review underscores the urgent need for integrated healthcare approaches to address the syndemic of HIV, NCDs, and MH in Africa. Interventions should prioritize stigma reduction, capacity building, and comprehensive care while addressing underlying socioeconomic determinants of health among individuals living with HIV. Strengthening healthcare systems and promoting person-centered care are vital to reducing disparities

and achieving Sustainable Development Goals. Future research should expand geographic and demographic coverage to capture the full scope of these syndemic relationships in diverse African contexts.

EP0253

The association between low birth weight and neurocognitive development and the impact of exposure to HIV in Utero

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Background: Neurodevelopment in early childhood has long-term impacts on quality of life and economic achievement. HIV infection in pregnant women is associated with low birthweight (LBW) and neurodevelopmental delay in the infant, even among children born HIV-exposed but uninfected (CHEU). LBW is associated with developmental delays, but few studies have assessed whether the impact of LBW among CHEU is different compared to HIV unexposed children (CHU). Due to progress in preventing mother-to-child HIV transmission, there is an urgent need to understand the pathways leading to developmental delay in CHEU.
Methods: We conducted a longitudinal cohort study in Malawi, recruiting pregnant women in their second trimester, and followed their infants to two years of age. Neurodevelopment was assessed using the Malawi Developmental Assessment Tool. Delays (Z-scores <-1) were assessed across gross motor, fine motor, language, and social domains. Children were categorized by birthweight (LBW < 2500g vs normal (NBW)) and HIV exposure. We used Chi-squared tests to examine the frequency of delay by group and logistic regression models to determine the odds ratio (OR) for delay by birthweight, accounting for interaction with HIV exposure and other confounders.
Results: Among 604 children, 49.5% were CHEU, and 13.9% of the total population were LBW. LBW was significantly associated with delays in fine motor (p=0.002), language (p=0.01), and overall MDAT scores (p=0.005). CHEU with LBW had the highest prevalence of overall delays (25% vs 11% among CHU with NBW). There was significant interaction between LBW and HIV exposure with a strong association between LBW and developmental delay among CHEU in the gross motor domain (OR among CHEU = 2.28, 95% CI:1.05, 4.97) but no association between LBW and gross motor delay among CHU (OR = 1.07, 95% CI:0.13, 8.83). Interaction was also seen in the fine motor domain (OR for CHEU = 3.27, 95% CI:1.28, 8.34; vs OR for CHU= 2.17, 95% CI:0.24, 20.03).
Conclusions: The effect of LBW on child development is more pronounced among CHEU than their CHU counterparts. This study highlights the significant long-term impacts of HIV exposure in utero and the urgent need for targeted interventions to improve CHEU health.

EP0254

Mortality and engagement patterns of People Living with HIV (PLHIV) during the first 12 months of antiretroviral treatment (ART)

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Background: The first 12-months of ART is associated with poor treatment outcomes. Advanced HIV Disease (AHD) screening is recommended for new initiations, and psychosocial support to prevent disengagement. In 2020, Lighthouse clinic established a "buddy system" that pairs newly initiating people living with HIV (PLHIV) with expert clients (ECs) for the first 12-months, to ameliorate transition to ART and offer adherence support. We assessed treatment outcomes during the first 12-months among PLHIV initiating ART.
Methods: We retrospectively analyzed engagement and mortality of PLHIV in the first 12-months of ART initiation (Jan 2021–Jun 2023) using EC diaries data. Engagement at 6 and 12-months was categorized as "continuous care" (no missed visits), "cyclers" (missed appointment and returned), or "disengaged" (not in care at month-6 and 12). PLHIV who "transferred out" or "died" were censored for the engagement analysis. Kaplan-Meier plots were generated in STATA.
Results: Among 1,168 PLHIV paired with ECs (median age 36 [IQR 28–43]; 55% female), AHD screening was done in 1,042 (89.2%), with 43.7% having CD4<200. Among these, serum-CrAg was positive in 4.4% and urine-LAM in 17.4%. Engagement at 6 and 12-months was 82% and 85%. Continuous care was 737 (87%) in the first 6 months, while 115 (13%) were cyclical. Twenty-six (4%) of the continuous PLHIV disengaged in the second half, and 23 (20%) of cyclers disengaged permanently.
Mortality was 7.2/100 person-years (95% CI: 5.6–9.1), highest in the first 3 months (17.2, 95% CI: 12.5–23.0) and declining thereafter. AHD was associated with higher mortality (10.2 vs. 4.1, p<0.01); no sex differences were found.
Conclusions: Our large cohort of PLHIV initiating ART shows continuing high early mortality. Patients with AHD are at higher risk despite 70-80% coverage of recommended testing for opportunistic infections (OIs).
Pairing PLHIV with an expert buddy leads to improved retention in the first year of ART compared to previous retention rates of 73%. Cyclical disengagement is a well observed pattern and is associated with increased risk of permanent disengagement later.

EP0255

Predictors of mortality among people living with HIV in Northern Nigeria: a four-year retrospective analysis of verbal autopsy cause of death

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Background: HIV-related mortality remains a significant challenge in Northern Nigeria, where healthcare access and service delivery models vary. Identifying the predictors of mortality is crucial for improving survival outcomes. Verbal autopsy, an established method in low-resource settings, provides valuable insights into the causes of death. This study examines predictors of mortality among people living with HIV (PLHIV).

Methods: A four-year (202-2024) retrospective study analyzed electronic medical records (EMRs) and verbal autopsy data from 202 health facilities across 10 states. Inclusion criteria for the study were documented HIV related deaths, time to mortality (defined as time from ART initiation to death) as the dependent variable determined through verbal autopsy. Mortality predictors were analyzed using univariable and multivariable Cox proportional hazards models. Variables included sex, current-age, recent-clinical stage, recent-viral load, facility ownership, service levels, and differentiated service delivery (DSD) models.

Results: Among the 24,885 PLHIV cohort, 13,774 (55.4%) were female and 11,111 (44.6%) were male. The median age was 40 years (IQR: 32 – 48). The mortality rate was 23.9 deaths per 1000 person-years (95% CI: 2.37 – 2.43). Some factors were significantly associated with a higher risk of deaths: male sex (aHR = 1.14, 95% CI: 1.04 – 1.24, p = 0.004), viral load (≥1000 copies/mL), age <15years (aHR = 1.13, 95% CI: 0.87–1.47, p<0.03), clients receiving services in private for-profit facilities (aHR = 1.38, 95% CI: 1.12 – 1.70, p <0.003), and facility-based DSD models (aHR = 1.20, 95%CI:1.08 – 1.33, p <0.001). Unexpectedly, clinical stage II (aHR = 0.74, 95%CI:0.65 – 0.84, p <0.0001) showed a significantly decreased likelihood of mortality while tertiary-level facilities showed a significantly lower mortality risk (aHR = 0.64, 95%CI:0.53 – 0.77, p <0.001) compared to primary health facilities

Conclusions: This study reveals key predictors of mortality among PLHIV: sex, age, viral load, facility type, and DSD model. To reduce mortality, targeted interventions should focus on improving care for individuals <15years, male, virally unsuppressed, those in private health facilities and clients receiving ARVs through facility-based DSD models. Future research should explore the unexpected link between Stage II HIV and lower mortality risk.

EP0256

Characteristics and prevalence in HIV, hepatitis B/C, and STDs among sexual minority men who inject drugs in the US, 2021-2023

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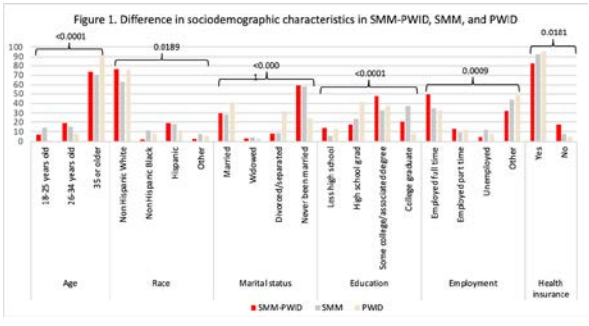
Background: Sexual minority men who use injection drugs (SMM-PWID) might face a heightened risk of HIV infection compared to non-injecting SMM and other male PWID due to dual HIV risks. Given advancements in HIV prevention and shifts in the opioid epidemic, this study provided an updated assessment of SMM-PWID's characteristics and the prevalence of HIV, hepatitis B/C, and STDs.

Methods: We analyzed the 2021-2023 National Survey on Drug Use and Health data, including adults who were assigned male at birth and heterosexual, gay, or bisexual. Participants who were gay or bisexual and never injected drugs were categorized as SMM, those who were gay or bisexual and ever injected drugs as SMM-PWID, and those who were heterosexual and ever injected drugs as PWID. Participants were asked about their life history of HIV, hepatitis B/C, and STDs in the past year.

We compared weighted percentages using Rao-Scott Chi-Squared tests and performed weighted logistic regression, controlling for sociodemographic characteristics and time.

Results: The sample (n=2,214, weighted n=15,336,498) included 4% SMM-PWID, 60% SMM, and 36% PWID. Selected sociodemographic differences are shown in Figure 1. In SMM-IDU, the prevalence of HIV was 34.5%, hepatitis B/C was 22.9%, and past year STDs was 7.6%. SMM-PWID had higher odds of having HIV compared to SMM (adjusted odds ratio [AOR]: 2.68, 95%CI: 1.13, 6.33) or to PWID (AOR: 22.10, 95%CI: 7.84, 62.33).

Additionally, SMM-PWID had higher odds of having hepatitis B/C compared to SMM (AOR: 6.30, 95%CI: 1.90, 20.88). No difference was found in STD prevalence.



Conclusions: The high prevalence of HIV and hepatitis B/C in SMM-PWID indicated that their engagement in multiple risk behaviors may have a synergistic effect on disease

transmission. The findings underscore the urgent need for targeted interventions that address the compounded risks faced by SMM-PWID, emphasizing the importance of incorporating their unique characteristics into intervention design.

EP0257

HIV/AIDS epidemiological patterns in Western and Central Africa: a decade-long analysis of 21 nations (2014-2023)

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Background: Western and Central Africa (WCA) is the epicenter of the HIV/AIDS epidemic in Africa, affecting 5.1 million people and causing 190,000 new infections at a 0.31 incidence per 1000 uninfected populations among critical groups: young women, girls, and their sexual partners. WCA accounts for an outsized share of HIV-related burdens and deaths in Africa. We examined HIV/AIDS epidemiological patterns in WCA between 2014 and 2023.
Methods: We conducted a longitudinal retrospective study using UNAIDS surveillance data spanning 2014-2023, examining HIV/AIDS patterns across WCA nations. We performed analyses at the national and regional scales on HIV prevalence (ages 15-49), incidence rate among 1000 uninfected adults, total adult cases (15+ years), and associated mortality rates. For consistency in reporting, we applied a standardized age criterion of ≥ 15 years across all analyses.
Results: The decade-long analysis of HIV prevalence across WCA nations varies significantly. Gabon (3.5 ± 0.35%) and Guinea-Bissau (2.88 ± 0.39%) had the highest prevalence, while Mauritania (0.24 ± 0.05%) and Niger (0.21 ± 0.03%) recorded the lowest. Regional prevalence has consistently declined over the decade, dropping from 1.7% in 2014 to 1.27% in 2023, with an overall mean of 1.48 ± 0.14%. Despite reductions, countries like Congo and Côte d'Ivoire remain heavily impacted. The average HIV incidence rate in WCA regions was 0.79 per 1,000 uninfected persons with a gradual decrease from 1.0 in 2014 to 0.59 in 2023 (mean annual rate ± SD: 0.79 ± 0.14). The number of adults living with HIV in WCA was 200,895.24 ± 3931.05. Nigeria had the highest burden (1,830,000 ± 48,304.59); Angola and DR Congo experienced gradual increases, while Burkina Faso and Guinea-Bissau showed stability. The HIV-related deaths in WCA were 6,321.67 ± 1,211.18, with the highest mortality rate in Nigeria.
Conclusions: Over the past decades, HIV prevalence, incidence, and burden have consistently decreased across WCA, indicating a controlled epidemic. Nevertheless, significant variations continue to exist.

EP0258

Late HIV testing in delivery rooms of Bukavu referral maternity wards for HIV vertical transmission prevention in the Democratic Republic of the Congo: a retrospective study

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Background: Vertical transmission of the human immunodeficiency virus (HIV) remains a major challenge for sustainable development and global health. One contributing factor is the significant proportion of delivering women who are HIV status unaware. In Bukavu, little is known at present about delivering women unaware of their status, HIV prevalence among these women, the determinants of status unawareness, and the impact of unawareness on neonatal outcomes.
Methods: This observational, multi-site study used delivering women's the obstetric records data of women who delivered in eight referral maternity wards in Bukavu over the period from January 2020 to June 2021. Descriptive statistics were computed, and multivariate logistic regression analyses were run with the statistical significance threshold set at 5%.
Results: The proportion of delivering women who were status unaware was 3.2% (520/16,469). Of these, 14.0% (73/520) were HIV positive. The women had an average age of 23 years and were mostly primigravida and primiparous. In multivariate analysis, HIV positive status was associated with place of residence.
All newborns of HIV-positive mothers received antiretroviral prophylaxis postpartum. Early and late neonatal mortality rates were 9.4% and 9.2%, respectively, though no significant statistical association emerged with mother's positive status.
Conclusions: In Bukavu, high HIV prevalence among status-unaware women at childbirth challenges the objective of ensuring an HIV-free generation, compromises neonatal outcomes, and raises maternal and child health concerns.
This underscores the need for increased initiatives in Congolese health policy to enable early HIV testing for pregnant women and implement effective interventions to prevent HIV vertical transmission.

EP0259

Achieving high 25-year retention in women's HIV research: Chicago Women's Interagency HIV Study (WIHS)

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Background: Socioeconomically vulnerable women of color are underrepresented in HIV research and described as "hard to retain." Obstacles include rigid protocols, transportation, childcare, inflexible employment, medical mistrust, disclosure/confidentiality concerns, and inaccessibility of information.
We describe long-term retention and semiannual visit attendance over 25 years (1994-2019) in Chicago WIHS, the longest running women's HIV study.
Methods: Retention strategies included community advisory boards planning with researchers, renumeration (for time, transportation, child-care), flexible scheduling, confidential, respectful, and culturally competent staff/environment, frequent care coordination/referrals, health education, peer support, and celebratory events/appreciation gifts. We report retention (seen in last year) and visit attendance censored at study endpoint (death, relocation, inability to consent, or withdrawal).
We compared women retained to those lost to attrition (met a study endpoint or unretained). Primary reasons for continued participation were ascertained; top three motivators were identified.
Results: At baseline, 581 women with/without HIV (78% WWH/22% WWoH), 71% African American (AA), median age 36 years; 73% unemployed, 61% ≤ high school education, 73% ≤ $18,000 annual household income; 38% unstably housed; 61% reported abuse history, 34% reported ever injecting drugs (IDU) and 64% used crack/cocaine/heroin (CCH). As of 2019 (Visit 49/50), 296 (50.9%) of women met a study endpoint [226 (38.9%) due to death]. Among 285 remaining, 246 (86.3%) were retained and 39 (13.6%) were unretained.
Retained women, compared to those lost to attrition were more likely to be Black, older at last visit, stably housed, employed, have higher income and more education but less likely to report recent CCH/IDU and cigarette use (all p<.01). Attrition was higher among WWH primarily due to deaths. Visit attendance was exceptional: 86% attending >90% visits with 61.4% attended *ALL* semiannual visits.
Women's top three reasons for study continuation were compassionate staff, personal health information, helping others by contributing to research.
Conclusions: High long-term engagement among poor marginalized women of color with/and at risk for HIV is achievable with an inclusive approach that addresses woman-specific challenges. Exceptional semiannual visit attendance over 25 years contributed to robust longitudinal data, ensuring high validity and generalizability of study findings that will advance our multidimensional understanding of women aging with HIV.

EP0260

HIV virological outcomes among children less than 15 years on dolutegravir in Rwanda, 2023

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Background: HIV significantly impacts global health, with 39 million acquired HIV, including 25.6 million in Africa. While antiretroviral therapy (ART) improves survival, some clients do not achieve viral load suppression. Dolutegravir (DTG) is effective and cost-efficient and has become preferred in low- and middle-income countries since 2018. However, it may not ensure adequate virological suppression. In Rwanda, pediatric clients receive DTG-based treatments, and this study examines risk factors for virological non-suppression.
Methods: Secondary Data from the national viral load sample management (VLSMS) and laboratory information system (LIS) were analyzed in a cross-sectional study of children living with HIV (CLHIV) on DTG-based ART. Logistic regression analyses were conducted using Stata 17 to assess relevant variables.
Results: Children aged 10-14 have a lower viral load than those 0-9, with significant odds ratios (OR) of 0.714 and 0.697 (p: 0.020, 0.006), indicating younger children are more susceptible to non-suppression. Males showed a higher unsuppressed rate (9.40%) than females (7.29%), but the difference was not significant (aOR 1.319, p=0.059). The Western Province had the highest unsuppressed rate (9.05%), but no significant regional variations were found. Therapy adherence was critical; children with poor adherence (<85%) had a higher unsuppressed rate (30.77%) versus those with good adherence (≥95%, aOR 0.178, p < 0.001).
No differences in unsuppressed rates were observed among various DTG regimens, and no significant changes were noted for therapy initiations between 2019 and 2023, suggesting treatment timing is not a major risk factor within the first year. Interventions must enhance support for younger children to address adherence.
Conclusions: Virological failure varies by age and gender, with adherence being the primary outcome determinant. The absence of geographic disparities implies equitable healthcare access nationwide.
Further research should explore local healthcare. Infrastructure and social determinants impacting initial inequality. Promoting excellent adherence is essential for optimizing DTG regimens and improving long-term health in among children.

EP0261

One-year incidence and causes of mortality among persons living with HIV who initiated antiretroviral therapy (ART) at an HIV clinic in Kampala

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Background: Mortality among PLHIV in Uganda is still higher than national targets to achieve the global End-HIV goals. Advanced HIV disease, characterized by low CD4 counts and stage III or IV disease, contributes to high mortality among persons living with HIV (PLHIV).

Following the roll-out of Dolutegravir as the preferred anchor drug for first-line therapy, there is a need to monitor changes in mortality among PLHIV. We aimed to determine the one-year incidence and causes of mortality among this cohort.

Methods: We conducted a retrospective cohort study using data from Uganda Electronic Medical Records at TASO Mulago HIV clinic in Kampala, Uganda. We included all PLHIV newly identified and initiated lifelong ART between January 2020 and January 2024. Using Logistic regression, we computed all-cause mortality, and then computed mortality rate as the total number of deaths divided by total person-time. Cox-proportional hazard models predicted the association between baseline CD4 category and death.

Results: Overall, there were 1922 PLHIV started on ART during the period, 67.7% (1304) were female, and the median age was 31 years (IQR: 13). Of these 67.8% (1304) had a baseline CD4 result, with 77.3% (1009) having CD4 above 200 cells/ul. In the cohort, 94.8% (1785) didn't have any signs or symptoms of tuberculosis (TB), 1.8% (34) were presumed to have TB, and 3.4% (103) were diagnosed with TB at baseline.

All-cause mortality at 1 year for this cohort was high at 3.6% (p<0.001). Seventy percent (49) of all deaths were due to opportunistic infections, TB inclusive. The one-year mortality rate for this cohort was 24 deaths per 10000-person months. Baseline CD4 <200 cells, compared to CD4≥200 cells/ul was associated with higher mortality at 1 year (HR = 8.1, p <0.001).

Conclusions: The proportion of PLHIV with low CD4 counts was low in this cohort. One-year mortality rate was high, and low CD4 was associated with a higher risk of mortality. TB and other infectious diseases accounted for more than two-thirds of mortality causes.

Advances in ART potency should be accompanied by advances in management of AHD and infectious diseases.

EP0262

Aging with HIV in Rwanda: navigating the dual burden of managing HIV and comorbidities

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Background: With improved access to antiretroviral therapy (ART), Rwanda has seen an increase in the life expectancy of people living with HIV (PLHIV), resulting in a growing population of older PLHIV. Aging with HIV presents challenges due to the dual burden of HIV and age-related comorbidities.

This study examined the prevalence of comorbidities among older PLHIV and their associations with age, time on ART, and health outcomes.

Methods: A cross-sectional study was conducted in 2023-2024 across 115 health facilities in Rwanda, including 7,449 PLHIV aged 15years and older. Data on demographics, duration of ART, comorbidities (e.g., high bool pressure, hyperglycemia, Asthma, and cervical cancer), and viral suppression were collected through structured interviews and medical record reviews.

Multivariate logistic regression was used to assess associations between age, time on ART, and accurence of comorbidity, with adjusted odds ratios (aOR) and 95% confidence intervals (CI) calculated.

Results: The study found that 40 % of PLHIV in Rwanda are aged 50 years and older. Among this group, 5.6 % had at least screened positive to one comorbidity, with the most common condition being High blood pressure (33.9%), Hyperglycemia (1.8 %), cervical cancer lesions (18%) and Asthma(1.4 %).

Additionaly, 30.8% of PLHIV with a longer duration on ART (≥20 years) and 20% of those with viral load non-suppression had at least one cormobidity. Older age (35-49 and ≥50 years) was significantly associated with comorbidities (aOR: 1.8, 95% CI: 1.5-2.3) and (aOR:3.8, 95%CI:3.0-4.7) respectivey.

Conclusions: Rwanda's aging PLHIV population faces a growing burden of comorbidities linked to age and long-term ART use. Integrated care models addressing HIV and chronic conditions, along with targeted interventions such as early screening and management of comorbidities, are essential to improving health outcomes and quality of life for this vulnerable population.

EP0263

Factors explaining high HIV prevalence among women compared to men in people who use drugs (PWUD)

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Background: Women who use drugs show appreciably higher HIV prevalence (47.1%) compared to men (6.2%), representing a 7.6 times higher HIV infection rate. Contributing risk behaivors include exchanging sex for drugs or money and struggling to negotiate condom use with sexual partners.
This study aimed to explore the vulnerability of women who use drugs to HIV infection and identify associated factors in Rwanda.
Methods: A cross-sectional approach and Respondent Driven Sampling (RDS). 1,113 individuals, aged 18+ from ten predetermined sites in Rwanda. Eligible participants had injected drugs within the last 12 months before the study, held a valid recruitment coupon, and consented to interviews and biological tests for HIV, HBV, and HCV screening. Data collection involved interviews and screening tests with analysis conducted using the Python program to focus on the prevalence of HIV infection and associated factors among women who use drugs.
Results: A total of 137 women who use drugs participated in the survey, regression analysis indicated that unemployed women were 2.86 times more likely to acquire HIV infection than unemployed men (OR = 2.86, 95% CI: [1.51, 5.37]), whereas women who used drugs more than four times daily were 1.47 times more likely to acquire HIV infection compared to men (OR = 1.47, 95% CI: [1.07, 2.03]). Furthermore, women who shared needles with over five individuals demonstrated a 1.92-fold increased likelihood of acquiring HIV infection as opposed to males (OR = 1.92, 95% CI: [1.33, 2.77]), and women who attempted suicide demonstrated a double increased likelihood of acquiring HIV infection compared to men (OR = 2.00, 95% CI: [1.19, 3.35]). Married women were 1.88 times more likely to acquire HIV infection than married men (OR = 1.88, 95% CI: [1.35, 2.61]).
Conclusions: The higher HIV incidence among women is primarily due to increased vulnerability associated with unemployment, substance abuse, needle-sharing, suicidal ideation, and marital circumstances.
This underscores the importance of developing gender-specific public health interventions to address these vulnerabilities and reduce HIV infections.

EP0264

Orphanhood and HIV risk among adolescents and young adults in Rakai, Uganda: a prospective cohort study, 1998-2022

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Background: Orphanhood decreased considerably in Rakai, Uganda, after the rollout of combination HIV treatment and prevention programs. However, the potentially evolving influence of orphanhood on risk for HIV infection as children become adolescents and young adults (AYA) remains unclear.
This study describes behaviors and HIV incidence among AYA who have lost one or both parents in Uganda.
Methods: Persons aged 15-24 years were surveyed approximately every 1-2 years from 1995 through 2022 in 28 communities. Orphanhood was defined as loss of a parent before age 18 years, categorized as single (lost either their mother or father), or double orphanhood (lost both mother and father).
We assessed risk of HIV acquisition by orphanhood status using Poisson regression to estimate incidence rate ratios (IRR) of new-onset HIV and 95% confidence intervals during 1998-2022. We also describe the cross-sectional associations between orphanhood and social and behavioral HIV risk factors using logistic regression to control for baseline age, sex and socio-economic status.
Results: Among 21,399 AYA without HIV at first interview, 3,228 (15.1%) single orphans and 1,468 (6.9%) double orphans were identified over the study period. Of these, 342 incident cases of HIV infections were identified during 1998-2022. Both orphanhood and HIV incidence fell over time. Orphans had higher HIV incidence rates than non-orphans at ages 15-19 years (IRR: 2.01, 95% CI: 1.09-3.69) but not at 20-24 years (IRR: 1.36, 95% CI: 0.91-2.00). Compared with non-orphans, orphans were more likely to have ever had sex (OR: 1.52, 95% CI: 1.38-1.67), and were less likely to have secondary education (OR: 0.78, 95% CI: 0.68-0.90). Orphanhood was not associated with other well known risk factors such as multiple partners. HIV risk among orphans did not change over time.
Conclusions: Despite recent declines, orphans represent an important risk group for targeted HIV prevention and treatment programs such as PrEP and programs that provide social support such as access to education and family strengthening.

EP0265

CD4 testing and occurrence of advanced HIV disease among PLHIV initiating treatment: insights from the PEPFAR monitoring, evaluation, and reporting system – October 2023-September 2024

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Background: Despite the adoption of Test and Start, many persons living with HIV (PLHIV) present late to care increasing their risk for opportunistic infections and mortality. CD4 cell count is the gold standard for identifying PLHIV who have advanced HIV disease (AHD; defined as PLHIV ≥ 5+years with CD4 count<200 cells/mm³) that may benefit from interventions that reduce death. In October 2023, PEPFAR began incorporating CD4 data into monitoring, evaluation, and reporting (MER) indicators to understand the prevalence of AHD among PLHIV, including those newly initiated on treatment in PEPFAR-supported countries and region (OUs). This analysis leverages MER CD4 testing data to estimate AHD prevalence by age and sex, aimed at guiding programming to prevent and address AHD.

Methods: Cumulative CD4 data were extracted from PEPFAR's MER system for PLHIV ≥ 5 years initiating treatment (TX_NEW) between October 2023 and September 2024 (FY24) across 32 of 33 PEPFAR OUs. Those with CD4 testing coverage of 60% or higher among TX_NEW were included, representing the top 20% of OUs in reporting completeness. Proportions of AHD among TX_NEW with CD4 results were disaggregated by age and sex across OUs meeting inclusion criteria. Nigeria was excluded due to ongoing data quality improvement efforts.

Results: CD4 results were documented for 639,012 of 1,515,064TX_NEW clients (42.2%) across 32 PEPFAR OUs. Seven OUs—Central Asia, India, Rwanda, Tanzania, Uganda, Central and South America, and Ukraine—documented CD4 results in ≥60% of their TX_NEW.

The proportions of TX_NEW with known CD4 results presenting with AHD in these seven OUs was 24.7% (range: 22.5% (Tanzania) – 45.1% (Ukraine)).

Among females, 32,572 of 153,601 (21.2%) had AHD, compared to 30,633 of 101,903 males (30.1%). Estimated AHD prevalence was highest (32.5%) among PLHIV aged ≥40 years.

Conclusions: These findings demonstrate low CD4 reporting rates across most PEPFAR OUs and indicate gaps in identifying PLHIV with AHD, limiting access to life-saving interventions. Substantial proportions of PLHIV continue to present with AHD, particularly among men and individuals aged ≥40 years.

These results underscore the importance of enhanced efforts to improve access to CD4 testing, early identification of PLHIV, and initiate ART to prevent AHD.

EP0266

Intentional horizontal transmission of HIV: narratives from people living with HIV in Nigerian hospitals – a mixed-method study

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Background: Horizontal HIV transmission remains a major contributor to the HIV prevalence. People living with HIV (PLWHIV) face psychosocial distress, including anger and resentment, which influence their actions and promote HIV transmission.

The aim of this study was to assess the prevalence and factors associated with intentional HIV transmission among PLWHIV in Nigerian teaching hospitals.

Methods: A mixed-method cross-sectional design was utilized in obtaining responses from PLWHIV in two tertiary health facilities: Lagos University Teaching Hospital and Enugu State University Teaching Hospital, Nigeria. Responses were sought from a randomly sampled 300 PLWHIV from December 2024 to January 2025.

The 23-item questionnaire assessed socio-demographics, personal experience and thoughts, acts of intentional HIV transmission, and personal narratives and perspectives. Descriptive, inferential, and thematic analyses were conducted, with significance set at $p < 0.05$.

Results: With a response rate of 74.0%, 222 PLWHIV participated in the study. Of this, 110 (49.5%) were within the ages of 25 and 44 years, 134 (60.4%) were female, and 106 (47.7%) were married. Less than half of the participants [52 (23.4%)] reported experiencing stigma and discrimination, and 110 (49.5%) acknowledged feelings of anger or resentment due to their HIV status.

The participants [28 (12.6%)] admitted to having considered transmitting HIV intentionally. About a third of the respondents, [70 (31.5%)], reported engaging in condom-less sex without disclosing their HIV status.

However, only 22(9.9%) admitted having condom-less sex with the intent of transmitting HIV. Participants' motivation included retaliation and stigma. A participant clearly responded, "*I was so sad; I felt others should experience it too.*". The most reported support systems were families and healthcare providers.

On measures to prevent negative behaviors such as intentional transmission, the most common themes were proper awareness and education. Of the 196 participants who adhered to their ART, 70 (35.7%) engaged in condom-less sex without disclosing their HIV status ($p = 0.009$).

Conclusions: The findings from this study showed that while the prevalence of intentional HIV transmission was low, the practice of condom-less sex remained high among PLWHIV.

Feelings of resentment, stigma, and discrimination, were major factors driving intentional HIV transmission. There is a need for targeted interventions to address stigma, discrimination, and intentional HIV transmission.

EP0267

Identifying key multimorbidity patterns in PWH with moderate and severe CKD using network analysis

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Background: Chronic kidney disease (CKD) in people with HIV (PWH) often co-occurs with other conditions, contributing to multimorbidity (presence of >2 chronic conditions). We used network analyses to explore multimorbidity patterns among PWH with eGFR<60 or eGFR<30.

Methods: We used DC Cohort data (2011-24) from participants with an initial eGFR<60 or eGFR<30 mL/min/1.73m^2 during observation. Covariates included demographic factors (age, sex, race/ethnicity, e.g.) and tenofovir disoproxil (TDF) exposure. Comorbidities were identified with diagnostic codes. We used prevalence and partial correlations between comorbidities to quantify strength of association between two conditions. Mixed graphical models identified multimorbidity patterns and centrality (importance) of each condition.

Results: A total of 3728 participants with an eGFR<60 were included in the analysis. Median age at enrollment was 53.6 years (IQR:46.9–60.0); majority were male (71.9%) and identified as Black (84.2%). Most participants (N=2903;77.9%) had a comorbidity concurrently with reduced eGFR, and the majority had TDF exposure (N=1749;46.9%). Of those, 2080 participants had an eGFR <30. Most common comorbidities were hypertension (67.7% and 64.1%), dyslipidemia (43.5% and 43.9%) among eGFR<30 and eGFR<60, respectively.

The network analysis included 1466 participants with >2 comorbidities and 43 individual conditions. Hypertension had the highest centrality in both networks, indicating its prominent role in multimorbidity, followed by alcohol abuse and chronic obstructive pulmonary disease (COPD) for eGFR<60 and dyslipidemia and COPD for eGFR<30 *[Figure]*.

The steep decline in centrality highlights key conditions influencing multimorbidity patterns among PWH with reduced eGFR. Diabetes, depression, and tobacco use are also relatively central in the network, suggesting strong associations to many conditions.

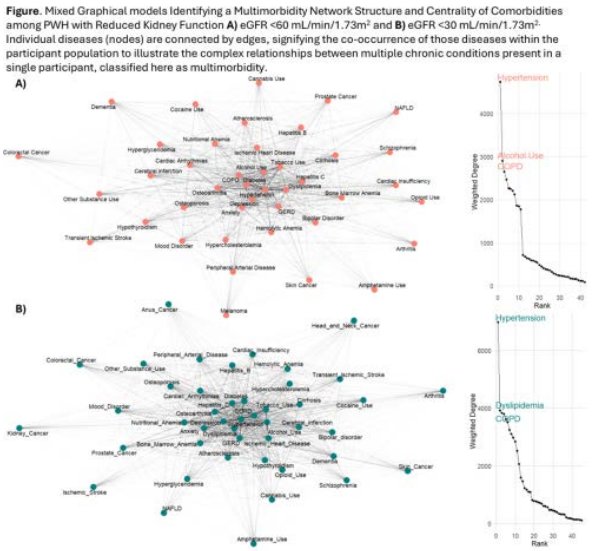


Figure. Mixed Graphical models Identifying a Multimorbidity Network Structure and Centrality of Comorbidities among PWH with Reduced Kidney Function **A)** eGFR <60 mL/min/1.73m^2 and **B)** eGFR <30 mL/min/1.73m^2. Individual diseases (nodes) are connected by edges, signifying the co-occurrence of those diseases within the participant population to illustrate the complex relationships between multiple chronic conditions present in a single participant, classified here as multimorbidity.

Conclusions: We identified relevant multimorbidity patterns among PWH across a spectrum of kidney function. The network analysis results offer a unique approach to identifying influential conditions in highly dimensional data, enabling the prioritization of these conditions for routine screenings in public health strategies and interventions.

EP0268

Is it feasible to eliminate mother-to-child transmission of HIV (MTCT) in Mexico by 2030?

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Background: Eliminating MTCT of HIV is a global priority established by the World Health Organization (WHO), with the goal of achieving it by 2030. In accordance with this goal, the Mexican government considers it a fundamental objective within the current health program for the period 2019-2024. The aim was to analyze the evolution of HIV cases related to perinatal transmission during the period between 1986 and 2023.
Methods: An analysis of the historical trend of HIV cases reported as a result of perinatal transmission was carried out, using the data provided by the National Registry of HIV/AIDS Cases of the Ministry of Health.
Results: During the period from 1986 to December 2023, a total of 4,255 cases of HIV associated with MTCT were recorded, representing 1.3% of the total reported cases. The trend in the number of cases was upward until 2006, reaching its peak with 277 diagnosed cases. From 2007 onwards, a general downward trend was observed until 2020. However, in 2021 there was an increase to 63 cases, followed by a decrease in 2022 and 2023, with 51 and 46 cases respectively *(Figure 1)*.



Figure 1. HIV cases by mother-to-child transmission of HIV by year of diagnosis, Mexico 1986-2023.

Conclusions: At the current rate of decline, Mexico will not achieve the MTCT of HIV by 2030. It is unacceptable that, despite having the necessary preventive measures and free and universal access to antiretroviral therapy against HIV, dozens of minors acquire HIV from their mothers every year. Guaranteeing the right of children to be born free of HIV is an ethical imperative that must be an absolute priority.

EP0269

Understanding drivers of HIV infections among men who have sex with men: opportunity for effective and efficiency use of HIV prevention services

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Background: Men who have sex with men (MSM) continue to experience a disproportionate burden of HIV infections globally. In 2024, Rwanda Biobehavioural Survey (BBS) among MSM reported that about 5.8% MSM were living with HIV in Rwanda. Understanding the key drivers of HIV transmission in this population is essential for developing effective prevention strategies.
This study determined factors that are linked with HIV infections among MSM in Rwanda.
Methods: We analyzed 2024 BBS among MSM data. The BBS was a cross-sectional study which Respondent Driven Sampling (RDS). The data were weighted using Gile's Successive Sampling (SS) estimator. To determine the drivers, we analyzed variables on participants' sociodemographic, use of HIV pre-exposure prophylaxis (PrEP), sexual behaviors including sex work information, condom use, lubricant use, circumcision, experience of discrimination and violence, and history of sexually transmitted infections. Using STATA 17, logistic regression model was built on factors associated with HIV infections.
Results: Of the 3757 MSM aged from 18 to 67 years with mean age 27. Of them, 53.1% were in Kigali city, 88.5% circumcised, 13% had ever been paid by a woman for sex, 22.5% had ever taken PrEP while about 5.8% (n=239) were tested HIV positive. Of those living with HIV, 70% were aware of their status.
Significantly higher likelihood of having HIV infection (p value<0.05) was among MSM aged 31 years and older [aOR: 23.1 with 95% C.I: 2.8-188.3], living in Northern province [aOR: 59.0 with 95% C.I: 2.9-1203.9], usually using petroleum Jelly as lubricants [aOR: 15.8 with 95% C.I: 1.3-193.9], and Syphilis infection [aOR: 21.0 with 95% C.I: 2.0-224.5].
Conclusions: This study reveals that HIV infections are strongly associated with increasing age, syphilis co-infections, and the frequent use of petroleum jelly as a lubricant. The use of petroleum jelly may damage condom during use, leading to protection failure. HIV prevention interventions should prioritize raising awareness and ensuring MSM have access to appropriate water or silicone based lubricants.
Nevertheless, further research with larger sample sizes is necessary to gain deeper insights into the contributing factors.

Monitoring and population-level interventions for non-HIV outcomes

EP0270

Understanding the intersection of HIV and aging

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Background: The intersection of HIV and aging in Zambia presents critical challenges for healthcare systems, policymakers, and communities. Advancements in antiretroviral therapy (ART) have enabled longer lives for people living with HIV (PLHIV), leading to an increasing population of individuals aged 50 and above. This demographic faces complex health, social, and economic challenges, including higher prevalence of non-communicable diseases (NCDs), mental health issues, and stigma.

The study aimed to explore these challenges, evaluate healthcare systems, and propose strategies to improve the quality of life for older PLHIV.

Methods: A mixed-methods study was conducted in Lusaka District, encompassing 512 quantitative interviews, 47 key informant interviews, and facility assessments at 11 healthcare centers. Quantitative data were analyzed using STATA and Excel, while thematic analysis of qualitative data was performed with NVivo. The study adhered to ethical standards, securing informed consent and approvals from relevant authorities.

Results: The results reveal that 57.2% of participants reported comorbidities alongside HIV, with hypertension being the most common. Mental health challenges were prominent, with 44.7% experiencing social isolation. Only 36.4% of healthcare facilities had age-specific HIV care plans, and 45.5% offered home-based care services.

Economic barriers significantly affected healthcare access, with 42.4% consistently facing transportation challenges. While support group participation was low at 37.1%, 73.6% of participants expressed willingness to join such groups. Employment was limited, with 28.9% self-employed and many reliant on family support or pensions.

Conclusions: The findings highlight the urgent need for integrated, age-specific healthcare that addresses physical, mental, and economic barriers. Recommended interventions include training healthcare workers in geriatric HIV care, enhancing NCD management, and expanding support systems.

Addressing stigma and promoting community-based care are critical for improving outcomes. These strategies will support healthy aging for PLHIV, align with global health goals, and ensure no one is left behind in the fight against HIV.

EP0271

A novel approach to weight loss: helping People Living with HIV to live well

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Background: Overweight and Obesity are increasing globally, with associated morbidity and mortality. Helping People living with HIV (PLHIV) who want to lose weight is integral to helping them live well with HIV.

The Imperial Satiety Protocol (I-Satpro) is an evidence-based, holistic approach to weight loss. Participants learn the scientific rationale behind making sustainable changes to eating habits, movement, sleep and self-care - resulting in clinically meaningful weight loss (≥. 10% body weight loss in previous work) and improvements in cardio-metabolic health.

We present results from 2 cohorts of I-SatPro participants from a large urban HIV clinic. There were no specific referral criteria.

Methods: Baseline data were collected on all participants including weight, lipid profile, HBA1C, and demographics.

The programme was delivered (online) in Spring and Summer 2024.

Participants were asked to register weekly weights by email.

Daily emails were sent to reinforce learning.

Results: 41 participants enrolled and engaged with the programme across the 2 cohorts.

	Participants	Age: (yrs)	Age: mean (yrs)	Weight: range (kg)	BMI: range	BMI: mean	Ethnicity: Black African	Ethnicity: White
Women	22	37-66	50.8	61.2-123.8	25.8-45.7	34.01	86%	14%
Men	21	40-68	54.6	87-135	29.1-39.4	34.37	10%	90%

Table 1: Baseline demographics.

1 woman and 3 men were discounted from analysis because they were taking a GLP-1 receptor-agonist. 1 man and 1 woman did not return any follow up weights.

The mean weight loss in women was 5.71Kg (range 2.1-11) and 6.54Kg (range 2-18) in men.

Women lost on average 6.17% of their baseline body weight (range 1.6-12.5) and men lost 6.48% of their baseline weight (range 1.6-17.1). The greatest weight loss was observed in those who engaged fully with the programme until completion.

	HbA1c mmol/mol	LDL mmol/L	Triglycerides	HDL
Women – mean	-0.63	-0.01	-0.18	0
range	(-4 to +3)	(-0.7 to + 0.6)	(–1.3 to +1.1)	(-.9 to+0.4)
n	n = 11	n = 17	n = 17	n = 17
Men - mean	-5.9	-0.59	-0.73	-0.03
range	(-27 to +1)	(–2 to +0.1)	(–2.4 to +0.2)	(-0.5 to +0.2)
n	n = 10	n = 8	n = 10	n = 10

Table 2. Differences in metabolic biomarkers measured before and after the programme. n = number of participants for whom these data were available.

Conclusions: These PLHIV participating in I-SatPro lost a clinically meaningful amount of weight.
In these real world data, greater improvement in metabolic markers was seen in men, however significance is not possible and interpretation is limited by sample size.
Participant feedback indicated significant positive impact on quality of life. These results suggest significant potential benefits of I-SatPro for PLHIV.

EP0272

Effect of nicotine metabolism on risk of myocardial infarction in cigarette smokers with

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Background: The prevalence of smoking in people with HIV (PWH) is 2 to 3 times the general population. Smoking increases risk of myocardial infarction (MI). Faster nicotine metabolism, quantified by the nicotine metabolite ratio (NMR; 3-hydroxycotinine/cotinine), is associated with nicotine dependence and lung cancer, but its causal effect on MI is unknown.
Methods: We conducted a nested case-control study within the Center for AIDS Research Network of Integrated Clinical Systems (CNICS) cohort. Cases were cigarette-smoking PWH with incident adjudicated MI between 1989 and 2020 who had available plasma samples; cigarette-smoking controls were selected by incidence density sampling (goal of 2 controls per case), with individual-level matching on age, race, birth sex, and plasma HIV RNA level.
NMR components were measured by liquid chromatography–tandem mass spectrometry. Conditional logistic regression was used to estimate odds ratios (OR) for the determinants of MI.
Results: We identified 135 cases with MI and 252 controls. Median (IQR) NMR was greater in those with MI [0.51 (0.36 0.73)] than controls [0.47 (0.30, 0.70)]. In conditional logistic regression, higher NMR was associated with greater odds of developing an MI, but the difference did not reach conventional statistical significance (OR: 1.4, 95% CI: 0.97-1.9). History of statin use (OR: 2.5, 95% CI: 1.5-4.1), hypertension (OR: 4.1, 95% CI: 2.5-6.6), and diabetes (OR: 2.2, 95% CI: 1.2-3.9) were associated with MI. Adjusting for these determinants did not substantively change the NMR-MI relationship (OR: 1.4, 95% CI: 0.92-2.0).
Conclusions: Among cigarette-smoking PWH, there was a small-magnitude association between NMR and MI which did not achieve conventional statistical significance. NMR therefore remains a potential biomarker for MI risk among PWH.
Further investigation is needed to estimate the precise effect of NMR on MI in PWH as well as to extend knowledge of NMR's effect on smoking cessation in this population.

EP0273

Associations between serum fatty acids and executive function among a prospective cohort of children with and without perinatal HIV exposure or acquisition from Kampala, Uganda

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Background: The relationship between fatty acids and executive function is understudied in child populations affected by HIV in Sub-Saharan Africa, where malnutrition and neuroinflammation persist.
The objectives of this study were to determine associations between serum fatty acids and proxy-reported executive function in Ugandan children and evaluate modification by perinatal HIV status. It was hypothesized that polyunsaturated fatty acids (PUFAs) associated with better executive function, while saturated fatty acids (SFAs) associated with worse executive function, especially among those affected by HIV.
Methods: 6-10-year-old children with perinatally acquired HIV (CPHIV; n=84), children HIV exposed but uninfected (CHEU; n=78), and children HIV unexposed and uninfected (CHUU; n=81) were recruited for a prospective cohort study in Kampala, Uganda. Serum fatty acids were measured at baseline, and caregivers reported child executive dysfunction via the Behavior Assessment System for Children-3 (BASC-3) and the Behavior Rating Inventory of Executive Function (BRIEF) at baseline, 6, and 12 months.
Adjusted linear mixed models assessed mean differences (MDs) and 95% confidence intervals (CIs) in age/sex standardized executive dysfunction z-score by fatty acid tertile. Results are presented by perinatal HIV status for significant fatty acid*HIV interactions ($p<0.10$).
Results: Among all adolescents, a high v. low ω-6:ω-3 ratio (MD [95% CI]: 0.35 [0.04, 0.66]) predicted increased executive dysfunction per BRIEF. Moderate SFA myristic acid (-0.34 [-0.64, -0.05]) and high SFA stearic acid (-0.33 [-0.63, -0.03]) associated with decreased executive dysfunction per BRIEF. CHEU with moderate and high ω-6 linoleic acid levels displayed strong increases in executive dysfunction per both tests (moderate BASC-3: 0.86 [0.11, 1.62]; high BRIEF: 0.66 [0.01, 1.31]), whereas high long-chain PUFAs predicted decreased dysfunction. High SFA arachidic acid

associated with increased executive dysfunction per BRIEF among CHUU (0.62 [0.00, 1.24]) but decreased dysfunction among CHEU (-0.99 [-1.65, -0.33]).

Conclusions: These results support the benefits of a low ω-6:ω-3 ratio for executive function but also highlight a positive association between SFAs and executive function. CHEU may be especially sensitive to long-chain PUFA and SFA intake.

Future studies should explore how fatty acids differentially influence cognitive processing, including scholastic outcomes, in populations affected by HIV and how in-utero/peripartum ART exposure may complicate this relationship.

EP0274

Information-based approach increases vaccine uptake among people living with HIV in the Paris region

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Background: A two-phase, cross-sectional multicenter prospective COVAVIH study was conducted among people living with HIV (PLWH) across 16 hospitals in the Paris region, France (2020-2021). During the initial phase, vaccination coverage was assessed, and participants underwent an intervention providing toolkits on vaccination guidelines for healthcare providers, vaccination counselling, and information leaflets for PLWH.

The study revealed low vaccination coverage despite regular follow-up and free of charge access to vaccines. The primary reason for vaccine reluctance was the lack of vaccination proposals or reminders. Nevertheless, 71% of participants expressed a willingness to get vaccinated. The findings were published (Kolakowska et al. *Vaccine* **42**, 3655–3663 (2024)).

Methods: Three years later, a follow-up survey took place to evaluate the impact of this awareness-raising strategy. Data from both phases were collected through questionnaires completed by participants, healthcare providers, and from medical records. Statistical analysis was performed using R software.

Results: Out of 338 PLWH participating in the 1st phase, 242 were included in the 2nd phase (71.5%). Vaccination coverage increased for all vaccines: DTP 83.9% vs. 56.2%, pneumococcus 75.2% vs. 59.9%, seasonal influenza 56.2% vs. 42.6%, hepatitis B 81.9% vs. 61.6%, hepatitis A 81.7% vs. 57.3%, and MMR 69.6% vs. 37%. However, the increase in vaccine uptake for DTP, hepatitis B and pneumococcus was observed only shortly after the intervention, with the effect diminishing in the following months.

Multivariable analysis in the 2nd phase revealed the following factors associated with vaccine uptake: BMI>30 (aOR=1.96; 1.03-3.8), older age (aOR=1.03; 1.01-1.06), being born in a Sub-Saharan Africa country (aOR=0.3; 0.13-0.7), and a low CD4 nadir (aOR=0.5; 0.26-0.96).

VACCINE	Indication to vaccine	Assessed in the 1st phase as vaccinated/immunized		Assessed in the 1st phase as not vaccinated/immunized	
		still up to date	no more up to date (including unknown status)	currently up to date	still not up to date
DTP	242	128	8	75	31
Pneumococcus	242	130	15	52	45
Seasonal influenza	242	80	23	56	83
MMR (born after 1980)	46	17	0	15	14
Hepatitis B (all uninfected)	138	84	1	29	24
Hepatitis A (when indicated)	213	122	0	52	39

Conclusions: Educational interventions through this multifaceted approach, are essential for increasing vaccine uptake among PLWH. Priority should be given to targeting vulnerable populations, particularly migrants and immunocompromised individuals. To achieve a sustainable result, such interventions should be repeated periodically.

EP0275

Early signals of language delays among preterm children who are HIV-exposed uninfected in Botswana

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Background: Children who are HIV-exposed uninfected (CHEU) may still be at greater risk of neurodevelopmental deficits than children who are HIV-unexposed uninfected (CHUU). We evaluated early neurodevelopment among infants with and without perinatal HIV exposure in Gaborone, Botswana.

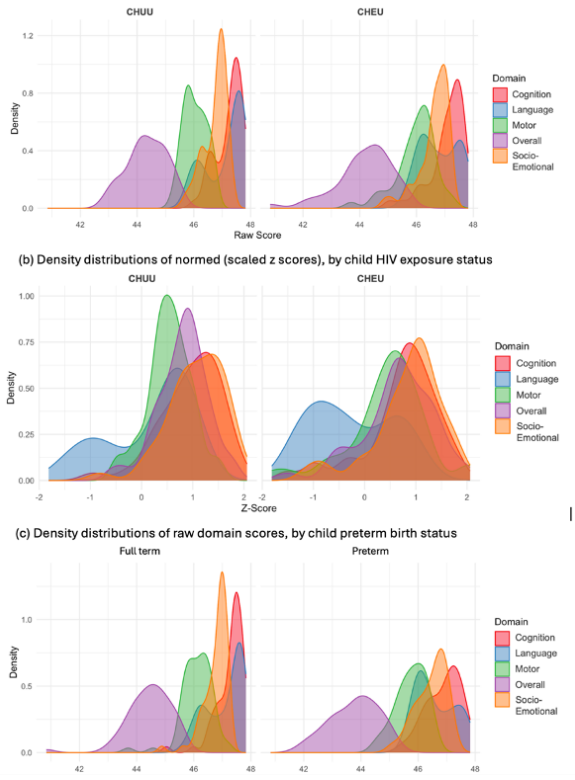
Methods: From October 2023 – June 2024, we enrolled mother-infant pairs, half of whom were mothers living with HIV and their CHEU. As infants reached 6-months of age, mothers were administered the Caregiver Reported Early Developmental Instruments (CREDI), which evaluated infants' overall, motor, language, cognition, and socio-emotional status.

Multivariable linear regression models compared infant raw and scaled z-scores by child HIV exposure status, adjusting for maternal education, marital status, and infant age and sex.

Results: A total of 86 mother-infant pairs were enrolled in Gaborone, Botswana, including 42 CHEU and 44 CHUU. Overall, 57% of children were male and 28% were born prematurely, which was comparable across groups. Compared to CHUU, CHEU were more likely to have older mothers (30 vs. 26 years), and fathers who were not financially supportive (29% vs. 9%) or present in the child's life (21% vs. 16%).

In unadjusted and adjusted models, CHEU scored significantly lower than CHUU in the language domain using both raw scores (coefficient: -0.30; 95% CI: -0.58, -0.01; p=0.04) and scaled z-scores (coefficient: -0.38 (-0.74, -0.02; p=0.03), with no significant differences identified in other domains. Preterm birth was significantly associated with poorer language outcomes among all children, and especially among CHEU.

Figure 1. Density distribution curves of CREDI scores



Conclusions: We saw an unusually high prevalence of preterm births in our cohort of CHEU and CHUU in Botswana. CHEU, and especially those born prematurely, may be at heightened risk of poor early language development. Interventions are urgently needed to identify children exhibiting these risk factors, screen for early developmental delays, and improve language stimulation among children in families affected by HIV.

EP0276

Utilization of prostate cancer screening services and reason for not screening among men living with HIV in Wakiso and Hoima districts, Uganda

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Background: Prostate cancer, the second leading cause of cancer-related deaths among men worldwide, is a non-AIDS-defining cancer (NADC) with rising incidence among men living with HIV (MLWH). Improved life expectancy in the antiretroviral therapy era increases age-related prostate cancer risk. Early detection through screening can significantly reduce morbidity and mortality but faces substantial challenges.

This study investigates the utilization of prostate cancer screening services and factors influencing their uptake among men aged 40 years and above living with HIV in Wakiso and Hoima districts, Uganda.

Methods: We utilized cross-sectional data from Round 4 of a population health surveillance study conducted by the Africa Medical and Behavioural Science Organization (AMBSO). The ongoing AMBSO cohort study (APHS) implemented in Wakiso and Hoima communities follows up participants annually to monitor disease trends particularly HIV. The communities are stratified into rural, semi-urban, and urban settings. Men aged 40 years and above living with HIV were surveyed at baseline and follow-up using a standardized questionnaire to assess their prostate cancer screening status and identify factors influencing service uptake.

Results: A total of 468 men aged 40 years and above were enrolled in the study, with a mean age of 52 years (SD = 10.02). Of these, 10.8% (50/464) were living with HIV and on antiretroviral therapy. Among MLWH, only 4% (2/50) had ever undergone prostate cancer screening. Among those who had never been screened, 66.7% (32/48) were unaware of the services, 29.2% (14/48) cited unavailability of services, 2% (1/48) reported fear, and the remainder felt they did not need the services.

Conclusions: The study reveals that prostate cancer screening among men living with HIV (MLWH) in Wakiso and Hoima districts remains critically low, with only 4% having ever been screened, compared to the national average of 5%. The primary barriers to uptake include lack of awareness, unavailability of services, fear, and perceived lack of necessity.

These findings emphasize the need for targeted interventions to raise awareness, improve service availability, and address misconceptions. Integrating prostate cancer screening into HIV care programs could enhance early detection, timely treatment, and ultimately reduce morbidity and mortality among MLWH.

EP0277

Scaling the uptake of mental health services and integration into primary health care for people living with HIV in Kenya

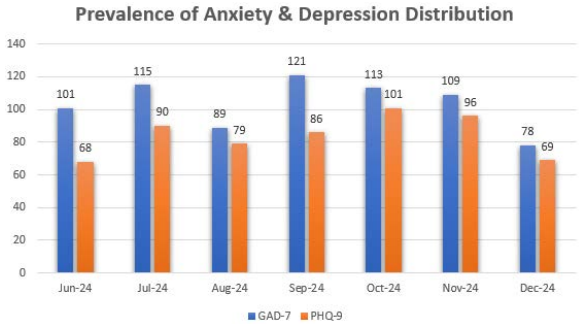
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Background: Mental health care in Kenya is under-prioritised, mainly addressed at higher care levels. Nearly 50% of adolescents face mental health issues, with depression and anxiety being major causes of disability among youths aged 10-24. One in four Kenyans struggles with mental disorders, yet there is a severe shortage of mental health professionals and facilities and minimal funding.

Description: HOYMAS Kenya, a community-led organization in Nairobi serving Men who have Sex with Men (MSM) and Male Sew Workers (MSW) , has integrated mental health services into its programs to address the mental health gap between June and December 2024. This initiative aimed to improve adherence to ART, reduce substance abuse, and tackle suicide. By centralising de-stigmatized mental health care. Healthcare workers were trained to screen, support, treat, and refer clients for mental health services, ensuring comprehensive integration. Clients were screened using Ministry of Health-approved tools (PHQ-9 and GAD-7).

Lessons learned: Programmatic data collected involving 1027 MSM/MSWs showed a higher prevalence of anxiety compared to depression. There was a surge between July and September owing to the hostility around LGBTQI+ in the country and the high cost of living. 726 clients had a varying degree of anxiety accounting for 70.69% while 589 (57.35%) had varying degree of depression.



Programmatic data collected involving 1027 MSM/MSWs showed a higher prevalence of anxiety compared to depression. There was a surge between July and September owing to the hostility around LGBTQI+ in the country and the high cost of living. 726 clients had a varying degree of anxiety accounting for 70.69% while 589 (57.35%) had varying degree of depression.

Conclusions/Next steps: Mental disorders and substance abuse often lack visible symptoms, complicating diagnosis and intervention. While more clients are seeking mental health services, barriers such as reluctance to engage with peer or clinical support persist. Capacity building for health care workers is crucial to successful service integration.

Recommendations:

- Promote mental health literacy to reduce stigma.
- Increase staffing in primary healthcare to improve service quality.
- Integrate telehealth to reduce wait times in overburdened facilities.
- Implement suicide prevention measures, including policy changes to decriminalize suicide.
- Secure adequate funding for mental health programs.
- Advocate for workplace policies that promote mental health.

EP0278

Trends in alcohol use among people living with HIV in South Central Uganda (2015-2020): divergent patterns by sex and concurrent substance use

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Background: Among people living with HIV (PLHIV) in Africa, alcohol use is associated with several detrimental health outcomes, including reduced adherence to antiretroviral therapy, poor viral load suppression, increased susceptibility to chronic conditions, and higher morbidity and mortality. However, population-level data on trends in alcohol use and associated consequences are rare among African PLHIV.

Methods: Data of PLHIV aged 15-49 in the Rakai Community Cohort Study (RCCS), a population-based HIV surveillance cohort were analyzed for periods 2015–2016 (n=3621), 2016–2018 (n=3641), and 2018-2020 (n=3350). Socio-demographic and behavioral characteristics were analyzed. Alcohol use was defined as any self-reported use in the past 12 months. Consequences of alcohol use were assessed using the Alcohol Use Disorder Identification Test (AUDIT). We used the $\chi 2$ test for trend to compare proportions of alcohol use across survey rounds, and modified Poisson regression, through a generalized linear model, to assess predictors of alcohol use. Variables with a cutoff $p<0.1$ were included in the model.

Results: Alcohol use decreased from 57.5% (2083/3621) in 2015–2016 to 54.4% (1823/3350) in 2018–2020 ($p=0.018$). Among females, it declined from 50.0% in 2015–2016 to 43.8% in 2018–2020 ($p<0.001$). However, among males, an increase from 70.6% to 73.2% was observed over the same period ($p<0.001$).

In the multivariable analysis, alcohol consumption was significantly higher among males, previously married, smokers, illicit substance users (marijuana and khat), and those working in bars, truckers or boda riders.

Significant declines in adverse outcomes of alcohol use were observed between 2015–2016 and 2018–2020: unsteady gait (28.9% to 17.1%, p<0.001), blackouts (14.3% to 11.2%, p=0.012), violence (14.1% to 10.3%, p<0.001), shaky hands (10.2% to 7.6%, p=0.017) and feelings of shame following what was done under the influence of alcohol (14.9% to 11.5%, p=0.008). These declines were more pronounced among the females.

Conclusions: While overall alcohol consumption and associated effects decreased, higher use among men, already more likely to be viremic than women, remains a concern. Notably, there are high rates of concurrent alcohol and substance use irrespective of gender.

These findings underscore the urgent need for integrated alcohol and substance use screening in routine HIV care.

EP0279

Accelerating progress in WHO 70-90 global cervical cancer screening and treatment targets for women living with HIV through PEPFAR support: achievements of the go Further partnership in 12 countries

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Background: Women living with HIV (WLHIV) develop cervical cancer (CC) at sixfold higher risk. In 2021, the World Health Organization (WHO) launched its 90-70-90 strategy targeting the elimination of cervical cancer (CC) as a public health threat by 2030. The United States President's Emergency Plan for AIDS Relief (PEPFAR) through the Go Further (GF) partnership, supports 12 African countries with CC screening and the treatment of precancerous lesions (PCLs) among WLHIV on antiretroviral therapy (ART). We examined progress in achieving WHO 70-90 targets for CC screening and treatment of PCLs, respectively, between fiscal years 2021-2024 in PEPFAR GF countries.

Methods: We reviewed semi-annual PEPFAR programmatic data on CC screening and treatment of PCLs among WLHIV (15+ years) in 12 PEPFAR-supported GF countries between October 2020 (FY2021) and June 2024 (FY2024). Screening methodologies included visual inspection with acetic acid and Human Papillomavirus (HPV) testing, and treatment of PCLs was by cryotherapy, thermal coagulation or Loop Electrosurgical Excision procedure. The Joint United Nations Programme on HIV/AIDS (UNAIDS) aidsinfo data was used to estimate the number of WLHIV (15+ yrs) in the 12 GF countries. We calculated CC screening and PCL treatment rates from FY21 to FY24 to assess progress towards WHO targets.

Results: As of FY2024, PEPFAR screened 6.9 of 7 million WLHIV (15+ years) in 12 GF countries (98% screening coverage). From FY2021 to FY2024, there was a 146% increase in the number of WLHIV who received CC screening (2.8 million to 6.9 million). Of the 424,646 who screened positive for PCL, 300,661 were first-time screens, representing 5.34% of all WLHIV on ART screened from FY2021-FY2024. First-time screenings dropped from 82% in FY2021 to 50% in FY2024, while rescreening rates increased from 15% to 47%, respectively. As of FY2024, five (Ethiopia, Lesotho, Mozambique, Namibia and Tanzania) of the twelve GF countries surpassed the WHO target of 90% treatment rate for PCLs.

Conclusions: PEPFAR has made substantial progress in reaching WHO 70-90 targets among WLHIV in the 12 Go-Further countries, with screening and PCL treatment services. To sustain the gains, continued national and donor investments are needed to integrate CC/HIV prevention services into health systems.

EP0280

Prevalence, characteristics, and correlates of physical frailty among people with HIV over 50 in clinical care in Kumasi, Ghana

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Background: The globally aging population of people with HIV (PWH) is at increased risk for discrete multi-morbidity associated with aging (e.g., hypertensive, metabolic, and renal diseases) as well as nonspecific aging health deficits embodied as frailty. Recent advances in frailty research in aging PWH in sub-Saharan Africa where majority of PWH live suggests frailty prevalence ranging from 5-20%. These studies have not included data from West African countries. We assessed the prevalence, characteristics and sociodemographic and morbidity correlates of physical frailty among PWH presenting for clinical care in Kumasi, Ghana.

Methods: PWH 50 years and older with at least 6 months of HIV antiretroviral therapy were enrolled during routine clinic visit to the Kwame Nkrumah University of Science and Technology Infectious Disease Unit.

We defined physical frailty as meeting three out of the 5 following criteria: impaired grip strength and walking speed, fatigue, falling physical activity levels, and BMI in the lowest 20% (as a proxy for unintentional weight loss). We defined pre-frailty as having 1-2 of these criteria. Demographics and socioeconomics were self-reported; clinical data was abstracted from medical records; physical and mental health assessments were performed and compared by frailty levels.

Results: Of 160 participants (68% female, 78% HIV diagnosis duration ≥5 years), 56% were aged 50-59, 35% were aged 60-69 and 9% were aged 70+ years. Frailty prevalence was 13%; 70% were prefrail with exhaustion being the most prevalent pre-frailty criterion (Figure).

Uncontrolled hypertension prevalence was 57% (55%, 56%, and 61% in frail, pre-frail and robust groups, respectively). Diabetes (8%) and dyslipidemia (4%) prevalence were low

though 51% had obesity/overweight (40%, 51%, and 60% in frail, pre-frail and robust groups, respectively). Almost all (99%) reported full function in activities of daily living. Moderate or higher depression (7%) or anxiety (5%) were uncommon.

Conclusions: Frailty and exhaustion related pre-frailty are important clinical considerations in aging PWH in Ghana, where functional impairment appears rare. Integrating geriatric care or principles into HIV care may be an important way to continue to extend quality and quantity of life for aging PWH.

Methodology to support epidemiological studies

EP0281

Overcoming barriers to biometric registration for PLHIV, insights from EpiC project implementation achieving over 99.4% across Arusha CC and Meru DC

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Background: This study examines factors enabling successful biometric registration among People Living with HIV (PLHIV) under the EpiC project, aimed at enhancing healthcare outcomes and client tracking efficiency.

Supported by FHI360 in partnership with Tanzania's Ministry of Health, YOUTH WINGS Organization implements the project in Meru DC and Arusha CC, funded by PEPFAR-USAID. Operating in 10 regions, the initiative strengthens healthcare systems and ensures effective care delivery for PLHIV through improved registration and tracking mechanisms.

Description: Biometric registration ensures accurate tracking of Recipients of Care (RoC) within healthcare systems, enabling the delivery of appropriate treatment and care. This system eliminates RoC who may appear in records but are not actively in care, allowing health providers to allocate resources effectively based on actual needs. Since its introduction, biometric registration has improved client tracking transparency and clarified the true number of active RoC.

However, achieving full coverage remains challenging due to barriers such as fear of stigma, privacy concerns, and suspicions about government data use. Understanding the factors driving the high biometric registration rates in Arusha CC and Meru DC is crucial to replicating this success.

Lessons learned: The combination of mentorship, personalized client engagement, and targeted outreach proved effective in addressing client concerns and misconceptions about biometric registration.

The role of peer navigators was crucial in building trust and ensuring that clients understood the benefits of registration while respecting their autonomy.

The success of this initiative demonstrates the importance of flexibility in service delivery and the need for client-centered approaches in healthcare interventions for PLHIV.

Conclusions/Next steps: Achieving over 99.4% biometric registration for RoC in Arusha CC and Meru DC highlights the success of mentorship, tailored outreach, and decentralized health services for PLHIV. This approach effectively tackled client resistance and misinformation, ensuring nearly all eligible clients were registered. By prioritizing client-centered care and community involvement, the initiative offers a model for improving tracking and care under the EpiC project in other regions. Future efforts should focus on addressing remaining barriers and sustaining a robust registry system, vital for enhancing health outcomes and long-term support for PLHIV. This success underscores the importance of adaptive and inclusive strategies.

EP0282

Modeling retention in care and final outcomes among infants born to Mothers living with HIV in Rwanda: a survival analysis

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Background: Retention in care among infants born to mothers living with HIV is a critical metric for the success of Prevention of Mother-to-Child Transmission (PMTCT). While Rwanda has made significant progress in reducing vertical HIV transmission, gaps remain in long-term infant retention, particularly during the early postnatal period.

This study aimed to predict retention rates in HIV care and HIV positivity rates at various intervals of routine follow-up to inform targeted interventions.

Methods: This study analysed data from 9,776 mother-infant pairs in Rwanda, recorded between June 2016 and July 2021 in all health facilities across the country, utilizing longitudinal clinical records. Retention rates were assessed at 6 weeks, 9 months, 18 months, and 24 months using Kaplan-Meier survival curves. Predictors of retention and HIV positivity were examined using Cox proportional hazards models, with maternal variables such as ART regimens, maternal viral load, and clinical outcomes included.

Results: Retention declined sharply within the first five months, stabilizing around the fifth month. By 24 months, the retention rate was approximately 68.1%, with most losses occurring early. HIV positivity rates declined across intervals, starting from 0.48% at 6 weeks, decreasing to 0.22% at 9 months, 0.11% at 18 months, and reaching 0.05% at 24 months.

Maternal age significantly impacted retention; the maternal median age was 36 years (IQR 31–40 years). For every 1-year increase in maternal age, the likelihood of

retention increased by 1% (Exp(coef) = 0.99, p < 0.005). Regional disparities were observed, with Kigali City showing a 19% higher likelihood of retention compared to the Eastern Province (Exp(coef) = 1.19, 95% CI: 1.06–1.33, p < 0.005).
Conclusions: Retention in care for HIV-exposed infants remains a challenge, particularly during the early postnatal period, underscoring the need for targeted interventions within the first five months.
The decline in HIV positivity rates highlights the effectiveness of Rwanda's PMTCT programs, though further efforts are needed to address retention gaps and regional disparities.
Strengthening maternal ART adherence, optimizing postnatal follow-up, and tailoring region-specific strategies can enhance retention and reduce transmission. These findings offer actionable insights to refine PMTCT programs in Rwanda and similar settings.

Surveillance: Measuring the HIV pandemic

EP0283

Outcomes from phase 1 implementation of recent HIV infection surveillance in the North and West regions of Cameroon, 2022-2024

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Background: Although Cameroon is nearing HIV epidemic control, over 12,000 new infections are reported annually. With the goal to inform policies on public health interventions to prevent HIV transmission, we established and implemented recent HIV-1 infection surveillance in the North and West regions of Cameroon.
Methods: A cross-sectional surveillance investigation was conducted to monitor recent HIV-1 infections in 30 facilities in the West and North Regions of Cameroon from October 2022 through September 2024. HIV-1 recency testing was systematically offered to all eligible clients aged ≥15 years with newly diagnosed HIV-1 infection.
A rapid test for recent HIV-1 infection was performed and viral load testing was used to improve the accuracy of classification, with results classified as either "recent" (acquired within 12 months) or "long-term" (over 12 months). Descriptive statistical analysis was performed to show the distribution of new HIV-1 infections by demographic characteristics.
Multivariable logistic regression was used to identify correlates of recent HIV-1 infection.
Results: A total of 3,746 clients aged 15 years and older with newly diagnosed HIV-1 were offered recency testing and 3,528 (94.2%) consented. Recent HIV-1 infection was confirmed in 114 (3.3%) clients using recent infection testing algorithm.
The proportion of recent infections was higher in the North versus the West region (3.9% vs. 2.4% p=0.023), in clients aged 15-24 versus those 25 years and older (5.3% vs 3.0% p=0.007), and in people who self-identified with key populations (KP) versus non-KP (7.3% vs. 2.9% p<0.001).
The odds of recent infections were 69% greater in the North compared to the West region (AOR 1.69; 95% CI: 1.03-2.76). Moreover, the odds of recent infections were doubled in KP compared to non-KP clients (AOR: 2.33, 95% CI 1.37-3.96) and doubled among those who were divorced or separated compared to those who were married or living together (AOR: 2.17, 95% CI: 1.24-3.80).
Conclusions: We successfully implemented and differentiated outcomes of HIV-1 recency surveillance in two Cameroonian regions. The findings can inform more targeted public health and social responses to tackle new infections. Additional qualitative investigations would help explore the association between recent infections and divorce/separation.

EP0284

Trends in TB/HIV co-infection and TB treatment outcomes in selected tertiary facilities in North Central Nigeria: a 5-year review

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Background: Tuberculosis (TB) remains a leading cause of morbidity and mortality among people living with HIV (PLHIV). TB/HIV co-infection poses challenges to treatment outcomes, requiring analysis of favourable (treatment success) and unfavourable (death, failure, loss to follow-up) outcomes to inform programmatic improvements.
This study reviews trends in TB treatment outcomes among TB/HIV co-infected individuals in tertiary facilities in North Central Nigeria over five years.
Description: A retrospective analysis of clinical and programmatic data was conducted for TB/HIV co-infected individuals treated at DOT units in tertiary facilities across Benue, Plateau, Nasarawa, and Taraba States from 2020 to 2024. Data sources included TB treatment registers, treatment cards, and laboratory records. Treatment out-

comes were categorized as favourable (treatment success) or unfavourable (death, failure, or loss to follow-up), with trends analyzed descriptively.

Lessons learned: Over five years, 1,005 pulmonary TB cases were identified among PLHIV (53% female; 4% children). Of these, 988 (98%) were enrolled in care. Favourable treatment outcomes improved from 65% in 2020 to 73% in 2024. Mortality rates declined from 12% to 8%, while loss to follow-up decreased from 17% to 6%, driven by enhanced DOT services. Loss to follow-up constituted 56% of unfavourable outcomes, predominantly among male patients by 2%.

Five-year Trend of TB/HIV Co-infection and TB Treatment Outcomes

		TB Treatment Outcomes									
Sex/Age Disaggregation		Sum of TB/HIV Patients Diagnosed	Sum of TB/HIV Patients on Treatment	Sum of TB/HIV Patients Cured	Sum of TB/HIV Patients Treatment completed	Sum of TB/HIV Patients Died	Sum of TB/HIV Patients Treatment Failure	Sum of TB/HIV Patients Loss to Follow up	Sum of TB/HIV Patients still on treatment	Favourable outcomes (Treatment successes)	Unfavourable outcomes
Sex	Male	471	463	141	193	47	1	69	12	334 (74%)	117 (26%)
	Female	534	525	148	243	57	0	65	12	391 (76%)	122 (24%)
Age	Children (0-14 yrs)	36	36	4	18	4	0	10	0	22 (61%)	14 (39%)
	Adult (>14 yrs)	969	952	285	418	100	1	124	24	703 (76%)	225 (24%)
Total TB/HIV Clients		1005	988	289	436	104	1	134	24	725 (75%)	239 (25%)
Proportion of children		4%	4%	1%	4%	4%	0%	7%	0%	22 (3%)	14 (6%)

Table 1: Showing Five years trend of the Favourable and Unfavourable TB treatment outcome cascade among TB/HIV co infected Patients.

Conclusions/Next steps: The findings reveal significant progress in achieving favourable TB treatment outcomes among TB/HIV co-infected individuals, with improvements in treatment success and reduced mortality. Persistent challenges with loss to follow-up underscore the need for strengthened DOT services and integrated TB/HIV care to sustain these gains. These insights are crucial for optimizing TB/HIV co-management in high-burden settings.

EP0285

Coverage gaps in HIV recent infection testing in community settings in Lusaka, Zambia, October to December 2022

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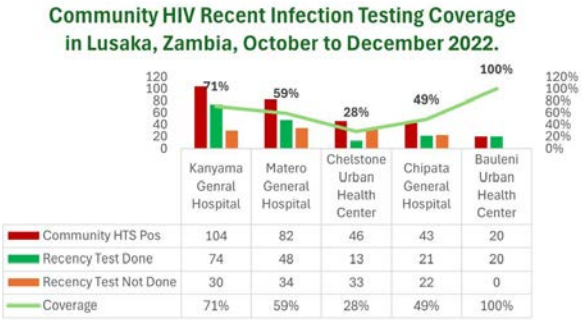
Background: The Zambia recent HIV infection surveillance (recency) program was launched in 2020 in high HIV incidence districts. Blood specimens for recent HIV infection and baseline viral load are collected from individuals newly testing HIV-positive to follow a recent infection testing algorithm (RITA). RITA results help map areas of potential HIV transmission to inform a targeted, public health response. A cornerstone of the program is the timely collection of standardized and accurate data. Here we evaluate coverage gaps in recency testing in community settings within Lusaka Province, Zambia and describe barriers to comprehensive surveillance.

Methods: We collected cross-sectional data between October-December 2022 from five community-based HIV testing sites attached to five general hospitals and primary health centers. Clients found HIV-positive in the community received recency testing from the respective health facilities. We evaluated coverage by comparing the number of community HIV positive tests vs facility recency tests.

Data were collected through a review of facility-level records and assessed for completeness and accuracy using community HIV testing records as source documentation. Feedback on challenges and gaps in processes was gathered from healthcare providers during routine data quality audits.

Results: Out of 295 HIV-positive individuals that tested positive in the community, 194 (66%) underwent recency testing at health facilities. Coverage varied significantly across sites, between 28% (13/46) and 100% (20/20).

Missed sample collection was the driver of the variance in coverage and was primarily attributed to a lack of clinical staff accompanying community teams and the logistical challenges of testing clients who opted to start ART at other facilities.



Conclusions: The findings highlight the impact of missed sample collection, which hinder the integration of recent infection testing into community-based HIV testing sites. Routine assessment of coverage gaps can inform the development of targeted interventions.

EP0286

Geospatial analysis of recent HIV infection in Zambia, April 2023 to September 2023

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Background: HIV recency assays have been used in the identification of populations and geographic areas that are at high risk of new infection. The Zambia recent HIV infection surveillance program began in early 2020. Here, we present results from surveillance data that mapped HIV hotspots from 27 districts across 6 provinces in Zambia.

Methods: We conducted a geospatial analysis using HIV recent infection surveillance data collected from April through September 2023 Data were obtained from the Zambian national laboratory surveillance system, and routine monthly HIV testing information. Recent HIV infection (acquired ≤12 months) was defined based on a positive rapid test for recent infection (RTRI; Asante™) and unsuppressed baseline viral load (VL) with ≥1000 copies RNA/ml which forms the basis of the rapid test for recent infection algorithm (RITA). Hotspot areas were defined using discrete Poisson scan statistics using SaTScan v10.3 with a radius of 10 kilometers, and clusters of recent HIV infection described using sex (male/female), age (<30, ≥30) and health facility geocodes.

Results: Out of 31,435 eligible HIV positive tests, 22,897 (72.8%) Asante™ tests were performed, and 2,984 (13.0%) tested RTRI-recent, and 1,132 (4.9%) RITA-recent. Of the 1,132, 69.5% were female, with individuals aged 20-34 comprising most cases (63.6%; 720/1,132). Geographical hotspots were identified in 3 provinces – Lusaka, Copperbelt and Eastern Provinces, Figure 1.



Figure 1. Geospatial Map of Zambia showing High HIV Acquisition Areas Between April and September 2023. Figure 1a1c Enlarged Views of Hotspot Areas Identified in Figure 1



Figure 1a. Copperbelt Province



Figure 1b. Lusaka Province



Figure 1c. Eastern Province

Conclusions: Using the Asante™ rapid test, it was possible to identify HIV acquisition hotspots. Although the provinces identified are commercial hubs, they are diverse in environment, socio-economic context and cultural diversity. Results from recency surveillance along with other program data were key to understanding and responding to the current context.

EP0287

Recent HIV infection in urban and rural settings among pregnant and breastfeeding women in Zambia: a comparative analysis

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Background: Women of reproductive age (15-49 years) in Zambia remain at high risk of acquiring HIV, posing significant challenges to efforts aimed at eliminating mother-to-child transmission (MTCT) of HIV. In high-prevalence settings, without intervention, the risk of vertical transmission ranges between 15% and 45%, with contributions of 5%-10% during pregnancy, 10%-20% during labor and delivery, and 5%-20% through breastfeeding.

This study compares recent HIV infections among pregnant and breastfeeding women (PBFW) in urban and rural settings in Zambia.

Methods: Data were analysed from the recent HIV surveillance (recency) program covering February 2020 to December 2023. We included PBFW aged between 15-49 years, tested in Lusaka and Copperbelt provinces, at 112 health facilities in two urban districts and 33 health facilities in two rural districts. Outcomes were compared using chi-squared tests.

Results: During the follow-up period, 33,857 recency tests were conducted of which 18% (6,238) were PBFW. Among the 6,238, 9.6% (599) were breastfeeding, and 90.3% (5,639) were pregnant. A total of 201 (3.2%) tests were from rural areas, and 6,037 (96.7%) were from urban areas. The proportion of recent infections was higher in rural settings at 17.4% (35/201) compared to 11.3% (685/6,081) in urban settings ($\chi^2 = 7.24$, $p = 0.007$).

When comparing groups, recent infections were higher among breastfeeding women, 17% (100/599), compared to pregnant women 11% (620/5639). Age distribution showed that younger women (15–24 years) accounted for a larger proportion of recent infections in rural settings (54% [109/201]) compared to urban settings (39% [2372/6081]). In both settings, antenatal care was the most common entry point into HIV services.

Conclusions: Despite differences in recency testing coverage driven by population density, the findings emphasize the need for targeted age-specific interventions in urban and rural areas to reduce HIV acquisition among PBFW, a critical step in preventing MTCT. Rural areas may require strengthened intervention programs, and expanded ac-

cess to testing services among the PBFW. Our study was limited to two high-burden provinces; however, expansion to more sites may provide more representative data and new insights in other regions of the Country.

EP0288

Tanzania bio-behavioral survey and population size estimation among women at high risk for HIV and sexually exploited girls in Dar es Salaam and Tanga, 2023

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Background: The Tanzania Biobehavioral Survey and Population Size Estimation (BBS and PSE), conducted by ICAP at Columbia University in partnership with the Tanzania Ministry of Health, CDC, NASHCoP, NIMR, NPHL, and MUHAS, aimed to evaluate progress towards the UNAIDS 95-95-95 targets.

The study focused on estimating the population size of women at high risk (WHR) for HIV and sexually exploited girls (SEG), identifying health and social challenges, and gathering data to guide HIV prevention strategies. I played a pivotal role as the community technical expert, ensuring ethical implementation, cultural relevance, and community trust throughout the survey.

Methods: From August to November 2023, the study used respondent-driven sampling (RDS) to recruit 1,009 WHR/SEG—776 from Dar es Salaam and 233 from Tanga City Council. Participants underwent behavioral interviews and biomarker testing for HIV, hepatitis B, hepatitis C, and syphilis. Emphasis was placed on community oversight to ensure ethical standards and culturally sensitive methodologies.

Achievements included strengthening referral systems, refining outreach strategies, and improving stakeholder engagement to boost community support.

Results: HIV prevalence among WHR/SEG was 17.0% in Dar es Salaam and 12.9% in Tanga. Incidence rates were 193 and 564 per 100,000 person-years, respectively. Viral suppression rates were 80.2% in Dar es Salaam and 58.4% in Tanga. The survey revealed high rates of physical and sexual violence (53.2% in Dar es Salaam, 37.4% in Tanga) and limited PrEP uptake (43.4% in Dar es Salaam, 43.9% in Tanga), especially in Tanga, where access to prevention and care services was significantly lacking.

Conclusions: This study highlights the value of multi-stakeholder partnerships in addressing HIV among vulnerable groups. It underscores the need for improved outreach, increased PrEP access, and integrated programs to combat gender-based violence.

By addressing these gaps, Tanzania can make significant strides toward achieving the UNAIDS 95-95-95 targets and improving health outcomes for WHR/SEG.

EP0289

Recent HIV infections and hotspot identification among key populations and their sexual partners in Ukraine, October 2021 to September 2024

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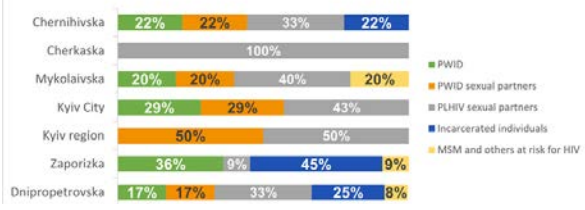
Background: Surveillance of recent HIV infection (RHI), infections occurring within the preceding 12 months, is critical for identifying active transmission, including among Key Populations (KP) and their sexual partners. In Ukraine, RHI surveillance is conducted in 13 of 24 regions.

Methods: RHI is defined by a first-time HIV diagnosis with a positive rapid test for recent infection and viral load >1000 copies/mL. Using RHI surveillance and demographic data, from October 2021 to September 2024 in 52 sites across 13 regions, U.S. Centers for Disease Control and Prevention (CDC) Ukraine and the Ukraine Public Health Center (PHC) identified hotspots using the following criteria:

- Local: Facilities reporting ≥ 2 new RHI cases within 30 days
- Regional: RHI comprising ≥ 5% of all newly diagnosed HIV cases within a quarter
- National: ≥ 2 standard deviations increase in RHI cases over 6 months

Results: During the surveillance period, 11,960 individuals were tested for RHI across 13 regions, with 0-7 hotspots identified per region. The percentage of RHI among newly-diagnosed cases was greater among Key Populations (KP); men who have sex with men (MSM) at 4.8% (438) and people who inject drugs (PWID) at 3.1% (2,962), versus 2.6% (8,506) among the general population. In 6 of the 7 regions with the most identified hotspots, at least 33% of RHI were among sexual partners of people living with HIV (PLHIV) (Figure 1).

Figure 1: Distribution of populations with RHI in regions with the most identified hotspots



Conclusions: The identification of hotspots demonstrates the influence of localized drivers of transmission, which may include displacement, disruptions in healthcare, and varying wartime risk behaviors. The high percentage of RHI among sexual partners of PLHIV highlights the importance of prevention, index testing, partner notification, and treatment services. RHI, with other surveillance and programmatic data, can allow CDC Ukraine and PHC to identify regions and populations with active transmission and tailor public health responses.

EP0290

Prevalence and factors associated with Advanced HIV Disease (AHD) among newly diagnosed people living with HIV in Rwanda, 2020-2023: implications on screening, prevention, and management

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Background: In 2017, the World Health Organization (WHO) introduced Advanced HIV Disease (AHD) package of care to facilitate early identification and management of opportunistic infections, rapid antiretroviral therapy (ART) initiation and adherence support among people living with HIV (PLHIV) with AHD. Despite improvements in ART coverage and early initiation, AHD remains a challenge. This study aimed to assess the prevalence of AHD and associated factors among newly diagnosed PLHIV in Rwanda.
Methods: We retrospectively reviewed HIV case-based surveillance (CBS) data of newly diagnosed PLHIV ≥18 years enrolled within 30 days of ART initiation from January 2020 to December 2023. We determined the prevalence of AHD (CD4<200 cells/mm3, WHO stage 3 or 4), determined factors associated with AHD in the first year of ART using odds ratios, Chi-square test and p-values reported.
Multivariable logistic regression was applied to determine predictors of unfavorable outcomes (alive on ART, treatment interruption, death, viral load non-suppression (VLS≥1000 copies/ml) and the implications of delayed diagnosis of AHD on morbidity and mortality.
Results: Among 19,512 newly diagnosed clients, 10,042 enrolled in CBS within 30 days of ART initiation and had outcome data available. Of these, 6500 (65%) were female, with a median age of 33 years (IQR: 27, 41).
AHD prevalence was 12.4% (1,246), significantly higher in males (16.2%) than females (10.3%) (p<0.001). Of those with AHD, 85.7% (1,068/1246) screened by CD4 had <200 cells/mm³, while those staged using WHO clinical stage, 22.1% (275/1246) were stage 3 or 4.
AHD prevalence increased with age: 5.6% in those aged 18–24 years, 9.8% in 25–34 years, 15.5% in 35–49 years, and 21.9% in ≥50 years (p for trend<0.001). PLHIV with AHD were 46% less likely (OR: 0.54, CI:0.36–0.81) to achieve VLS by 12 months; after 12 months, 97% had similar outcomes to those without AHD.
Conclusions: These findings highlight opportunities for granular AHD monitoring using CBS. In Rwanda, AHD disproportionately affects older individuals and is associated with lower likelihood of VLS before 12 months, despite similar care outcomes after 12 months. Lower CD4 testing coverage highlights missed opportunities for early AHD diagnosis that may exacerbate unfavorable outcomes.

EP0291

Community involvement in improving compliance among children and adolescents treated at the Donka outpatient treatment centre: the experience of the Fondation Espoir de Guinée

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Background: Disclosing the HIV status of a child living with HIV is a delicate situation requiring a different approach to that used for adults.
The aim of this study was to determine the reasons for sharing serostatus with children and adolescents undergoing antiretroviral (ARV) treatment.
Methods: A descriptive cross-sectional study was conducted at the Donka CTA over a 36-month period, from January 2020 to December 2022. All HIV-infected children and adolescents undergoing ARV treatment and who explained the reason for their daily treatment were included.
Results: Of 367 patients monitored during this period, 44 were identified, representing a prevalence of 11.9%. The average age of the participants was 14 years, with extremes of 11 and 18 years. The majority of patients were female (56.8%). The main reasons for sharing HIV status were: misunderstandings with the guardian after the death of the parents (36.4%), the onset of active sexuality (13.6%), neglect of ARV treatment (18.2%).), categorical refusal to take the treatment (22.7%) and abandonment of the children by the family after the death of both parents (9.1%).
Despite these initial challenges, all participants adhered to treatment after learning their HIV status. They complied with the medical appointments prescribed, thus guaranteeing their continued care.
Conclusions: The adherence of HIV-infected children and adolescents was optimal after disclosure of their serostatus. These results highlight the need to develop intervention strategies tailored to the paediatric context.
Such approaches will better meet the specific needs of these young patients and improve their future health and quality of life.

EP0292

Assessing the impact of maternal art adherence and associated factors on perinatal HIV outcomes: a retrospective study in Rwanda (2016-2021)

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Background: Maternal adherence to antiretroviral therapy (ART) during pregnancy and postpartum is crucial in determining perinatal HIV outcomes. In resource-limited settings like Rwanda, understanding factors associated with infant HIV outcomes is vital for improving prevention of mother-to-child transmission (PMTCT) programs.
This retrospective study evaluates the impact of maternal ART adherence, ART regimens, and associated clinical and demographic factors on infant HIV status and retention at 24 months.
Methods: This study analyzed data from 9,776 mother-infant pairs recorded between June 2016 and July 2021 across health facilities in Rwanda. Maternal ART adherence was assessed at 6, 12, 18, and 24 months postpartum, alongside infant HIV status and retention rates at 24 months. Predictive variables included maternal age, ART regimens, opportunistic infections, and viral load (VL) at 24 months. Cox proportional hazard models and ordinary least squares regression were used for analysis.
Results: Adherence to ART declined from 82.8% at 6 months to 54.4% at 24 months. Poor adherence at 24 months was significantly associated with increased odds of infant HIV positivity (+0.50%, $p < 0.005$).
Maternal age was negatively associated with infant HIV positivity (1-year increase reduced odds by 0.19%, Exp(coef) = 0.998, $p < 0.005$). Absence of maternal opportunistic infections reduced infant HIV positivity odds by 0.20% (Exp(coef) = 0.998, $p = 0.018$). ART regimen ABC+3TC+DTG showed a modest effect, increasing odds by 0.24% (Exp(coef) = 1.0024, $p < 0.005$). Retention rates at 24 months were 68.1%.
Conclusions: This study highlights the importance of maternal ART adherence in reducing infant HIV transmission. Improved adherence interventions during postpartum stages and strengthening retention programs are essential for improving perinatal HIV outcomes in Rwanda.

EP0293

Qualitative assessment of health system barriers to access of HIV services by men who have sex with men (MSM) in Rwanda

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Background: In 2022, Rwanda became one of the first five country to achieve the UNAIDS 95 targets. However, despite national initiatives such as PrEP, KP-friendly services and same-day ART initiation, MSM have much lower achievements against the UNAIDS targets, compared to the general male population. HIV prevalence is 6.5% among MSM compared to 2.2% in the general male population. Compared to the general male population, MSM have higher new infection rates (9% vs. 0.09%), poor awareness of HIV status (43.4% vs. 80.4%), and lower viral suppression (76% vs. 85.4%).
This study, conducted in 2023, aimed at identifying barriers in the health system that impede MSM's utilization of HIV services in Rwanda.
Methods: This qualitative study used in-depth interviews with 98 MSM (46 who did access HIV services and 52 who did not access HIV services between July 2021 and June 2022). Interviews were also conducted with 18 healthcare providers and 8 staff from implementing partners supporting MSM programs. Using purposive sampling, 6 health facilities were selected, and MSM participants were recruited via health facility registers and snowballing sampling method. Participants were recruited based on age and geographic diversity. Data were analysed thematically to identify barriers.
Results: Limited MSM-tailored services, lack of trained healthcare workers, and low MSM awareness on the availability of HIV services impeded access. Community and self-stigma, coupled with poor health-seeking behaviour, fear of confidentiality breaches, stigma from healthcare providers, and inflexible service hours limited access to services.
Finally, pervasive stigma at the community, family, and facility levels eroded trust in services among MSM.
Conclusions: Addressing these barriers requires expanding MSM-competent services, involving MSM in program planning, training providers, and offering confidential, flexible care.
Collaborating with MSM networks, integrating mental health support, and ensuring consistent availability of prevention commodities like PrEP are crucial for improving HIV outcomes and achieving UNAIDS targets.

EP0294

Trends and predictors of mortality within the first year in care among people living with HIV on antiretroviral therapy in Tanzania

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Background: The test-and-treat all approach was adopted in 2016 and scaled in Tanzania in 2017. First-line antiretroviral therapy (ART) regimen included tenofovir, lamivudine, and efavirenz combination therapy and in 2019 was switched to dolutegravir (DTG) plus, (efficacious regimen). We evaluated trends of mortality within the first year on ART in people living with HIV (PLHIV) in five regions in Tanzania.
Methods: We conducted a retrospective cohort analysis of records and included all PLHIV who initiated ART between 2018 and 2022, followed from the date of ART initiation and censored on the date of death or 12 months since initiation. De-identified routinely client-level data were abstracted from the national HIV treatment database. Data abstracted included socio-demographics, clinical comorbidity, and outcome. Poisson regression was conducted to determine predictors of mortality. Analysis was done using STATA v17.
Results: A total of 119,544 PLHIV newly on ART with median age 35.8 (27.5, 45.3) were included. Overall 4.9% were under 15 years and 66.7% were female. The proportion of death among PLHIV in 2018, 2019, 2020, 2021, and 2022 were 5.5% 5.2%, 5.5%, 5.7%, and 5.3% respectively.
Overall, 79% (5,065) of all deaths occurred within the first six months of ART. The mortality rate was highest among children under 5 years, 12 per 100 person years (PY) (10.6-13.5); and for elderly above 50 years, 12.4 per 100 PY (11.8 – 13). Mortality was higher in males (10.5 per 100 PY (10.1 – 10.9)) compared to females (6.12 per 100 PY (5.93 – 6.34)).
Predictors of mortality within the first year on ART were: any opportunistic infections (OI) at start of ART (incident rate ratio (IRR) 1.3 (1.1 - 1.5)), poor treatment adherence (IRR 1.2 (1.1 - 1.3)), WHO stage 3 or 4 (IRR 2.2 (2.1 - 2.4)), being widowed (IRR 1.2 (1.1 - 1.3)), or being male (IRR 1.3 (1.2 - 1.4).
Conclusions: Twelve-month mortality rates among PLHIV newly on ART remained constant, 2018-2022, majority of deaths occurred within six months. Predictors of mortality included age <5 years, being male and OI diagnosis at initiation. There is need to optimize care of new PLHIV and closely monitor the first six months.

EP0295

Optimizing HIV surveillance for key populations in Nigeria: Insights from the 2023 size estimation and 2024 programmatic review

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Background: Key populations (KPs) in Nigeria, including female sex workers (FSWs), men who have sex with men (MSM), transgender individuals (TG), and people who inject drugs (PWID), are disproportionately affected by HIV. The 2023 Key Population Size Estimation and the 2024 Key Population Programmatic Review (KPPR) provide a critical opportunity to refine surveillance systems and improve interventions for KPs.
These reports combine data on HIV prevalence, transmission dynamics, and service access to identify key gaps in the national HIV response.
Methods: The 2023 size estimation employed programmatic mapping across 20 states, with a focus on hard-to-reach KPs. Geospatial mapping identified HIV transmission hotspots. The 2024 KPPR utilized this data to analyze program reach, retention, and effectiveness of HIV prevention interventions across key populations.
A mixed-methods approach was employed, integrating surveillance data, program monitoring, and HIV outcome indicators to assess service access and retention.
Results: The Size Estimation identified 64,200 KPs, with FSWs (28.8%), MSM (25.0%), TG (15.5%), and PWID (10.9%) representing the highest HIV burden. GIS analysis showed spatial clustering of KPs, with significant HIV transmission in urban and peri-urban areas. The KPPR revealed that only 42% of KPs accessed prevention services, with gender disparities, particularly among TG and MSM. Retention rates in care were low, with a 30% drop among female KPs due to stigma and access barriers.
Conclusions: The findings highlight the importance of integrated surveillance systems for monitoring HIV transmission and assessing the effectiveness of interventions. Data from the 2023 Size Estimation and 2024 KPPR call for targeted, data-driven interventions in high-transmission areas and among under-served KPs.
To improve retention and care, geospatial monitoring, dynamic surveillance, and continuous program evaluation are essential for optimizing resource allocation and intervention strategies.

EP0296

Demographic and geographic disparities in the prevalence of advanced HIV disease among newly diagnosed people living with HIV in Nigeria: a cross-sectional study across sixteen states

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Background: Advanced HIV Disease (AHD) is a significant threat to public health in Nigeria, contributing to increased opportunistic infections and mortality among people living with HIV (PLHIV). This study aims to determine the prevalence of AHD among newly identified PLHIV in Nigeria and explore opportunities for targeted interventions to improve health outcomes.

Methods: A cross-sectional study was conducted using de-identified data from 220,805 newly identified PLHIV, aged above five years, who were screened for AHD across 601 facilities in 16 states between January 2022 and November 2024. The primary outcome was AHD prevalence, defined as the percentage of clients diagnosed with AHD (CD4 count ≤ 200 cells/mm³ or WHO stage 3 or 4). Prevalence was analyzed using inferential statistics, including the Kruskal-Wallis test, Wilcoxon-Mann-Whitney test, and Kendall's tau correlation, across geographic locations, population settings (urban vs. rural), sex, age, care entry points, and target groups.

Results: 22,538 of the total 220,805 newly diagnosed PLHIV were diagnosed with AHD, yielding a prevalence of 10%. The median age was 32 years (IQR: 26–40). The highest prevalence was in Niger State (20%, 1,814/9,000). A weak positive correlation was observed between age and prevalence (tau = 0.0457, p < 0.001), with the highest prevalence among clients aged 65 and above (17%). There was a slight difference in prevalence by sex, with females at 10.4% and males at 9.9%. TB-DOT entry points recorded the highest prevalence at 38%. By ART enrolment, facility-based clients had a higher prevalence (14%, 16,678/116,069) than community-based clients (6%, 5,860/104,736). Among target groups, children of key populations recorded the highest prevalence (7%), followed by transgender individuals (5%). Differences in prevalence across states, entry points, ART settings, and target groups were statistically significant (p < 0.001).

Conclusions: These findings demonstrate an unexpectedly high proportion of PLHIV in Nigeria can be found to have advanced HIV disease, a problem that has been particularly concerning in those starting care via TB-DOT services, facility clients, older individuals, and children of key populations.. This underscores the urgent need for tailored interventions to improve early HIV diagnosis and linkage to care to reduce AHD-related morbidity and mortality.

EP0297

Factors associated with high HIV prevalence among females sex workers in Rwanda: a cross-sectional survey using respondent-driven sampling technique, 2023

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Background: Since the start of key populations program in Rwanda in 2013, HIV prevention services for high-risk groups have expanded. However, HIV prevalence among Female Sex Workers (FSWs) remains high, with 10 times those of females in the general population.

This study aimed to assess the HIV prevalence and associated factors among FSWs in Rwanda.

Methods: A cross-sectional biological and behavioral survey was conducted among FSWs aged 15 years and above in Rwanda from May to June 2023, using respondent-driven sampling with an expected sample size of 2,489. Consented participants were interviewed and tested for HIV following Rwandan national guidelines.

Descriptive analysis and multivariable logistic regression were performed in STATA_17 to identify factors associated with HIV infection. Results are presented as adjusted odds ratios (aOR) with 95% confidence intervals (CI) and a p-value < 0.05.

Results: Of 2,541 surveyed FSWs, 854 were HIV-positive, resulting in a prevalence of 35.2% [31.8, 38.7]. Prevalence was highest in Kigali city (43.5%) [37.0-50.2] and lowest in the Northern Province (21.6%) [17.6-26.2].

Multivariable logistic regression model showed higher odds of HIV acquisition among widowed (aOR=2.77, 95% CI:1.06-7.20, p=0.037), and divorced (aOR=1.48, 95% CI:1.00-2.19, p=0.045), those with no formal education (aOR=1.96, 95% CI:1.21-3.17, p=0.006), lacking health insurance (aOR=2, 95% CI:0.37-0.88, p=0.012), and those with negotiation power over condom usage (aOR=0.13, 95% CI:0.02-0.87, p=0.035), and FSWs working in other public places (aOR=5.27, 95% CI:1.56-17.79, p=0.007) than those in hotels or bars.

FSWs aged ≥40 years also had higher HIV odds compared to younger age groups: 15-19(aOR=0.11, 95% CI:0.01-0.61, p=0.012), 20-24(aOR=0.1, 95% CI:0.05-0.20, p=<0.001), 25-29(aOR=0.2, 95% CI:0.12-0.35, p=<0.001), 30-34(aOR=0.35, 95% CI:0.21-0.59, p=<0.001), and 35-39(aOR=0.55, 95% CI:0.33-0.89; p=0.016).

Conclusions: HIV prevalence among FSWs in Rwanda is influenced by diverse socio-demographic and behavioral factors, underscoring the need for targeted outreach, education, and access to prevention resources to reduce transmission in this vulnerable group.

EP0298

Data quality assessment on recent HIV acquired cases (Recency) surveillance data in nine districts of the Copperbelt Province, Zambia

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Background: Recent HIV acquisition (recency) surveillance aims to identify areas of high HIV transmission to inform precision public health interventions. Surveillance data is important as it helps monitor disease trends and effectively guide resource allocation. Given that this data is used for planning, implementation and performance evaluation, data quality is important.
We evaluated the impact of data quality audits (DQAs) on the quality of recency data in the Copperbelt Province of Zambia.
Methods: DQAs were conducted in 24 randomly selected health facilities reporting recency data across nine districts between program quarters spanning (January-September 2024).
We extracted surveillance data from PCR laboratories, non-PCR (hub) laboratories, sample requisition forms, and the central laboratory data repository on the following variables: clients aged <15 years (clients ineligible for recency testing), missing data for age, gender, breastfeeding status, pregnancy status, modality of entry into HIV care, inconclusive and invalid recency assay results, missing baseline viral load results, sample collection date and recency test date. During DQAs, capacity building and mentorship were conducted at facility, district, and provincial level.

Data Issues	Total Recency Tests Done Quarter 1	Number of Errors Quarter 1	Percentage of Errors out of total tests	Total Recency Test Done Quarter 2	Number of Errors Quarter 2	Percentage of Errors out of total tests	Total Recency Test Done Quarter 3	Number of Errors Quarter 3	Percentage of Errors out of total tests
Unknown Gender	3619	1	0.03%	3149	1	0.03%	3594	0	0.00%
Missing Age	3619	15	0.41%	3149	6	0.19%	3594	16	0.45%
Below 15yrs	3619	32	0.88%	3149	25	0.79%	3594	29	0.81%
Missing Gender	3619	32	0.88%	3149	24	0.76%	3594	38	1.06%
Missing Sample Collection Date	3619	66	1.82%	3149	40	1.27%	3594	33	0.92%
Missing Baseline Viral Load results	3619	176	4.86%	3149	149	4.73%	3594	205	5.70%
Missing Modality	3619	265	7.32%	3149	210	6.67%	3594	221	6.15%
Missing Recency test date	3619	974	26.91%	3149	408	12.96%	3594	530	14.75%
Missing Pregnancy status	3619	1695	46.84%	3149	1317	41.82%	3594	1183	32.92%
Missing breastfeeding status	3619	2233	61.70%	3149	2044	64.91%	3594	1769	49.22%

Results: After the DQA interventions, we observed a reduction in the proportion of recency tests with missing data and errors. Missing pregnancy status among female clients reduced from 46.84% (Q1), to 41.82% (Q2), to 32.92% (Q3) respectively.
Missing pregnancy status among female clients reduced from 64.91% (Q2) to 49.22% (Q3). Unknown gender reduced from 0.03% (Q1), maintained 0.03% (Q2) to 0.00% (Q3). Missing sample collection data reduced from 1.82% Q1),to 1.27% (Q2), to 0.92% (Q3). Missing Recency test date also reduce from 26.91% (Q1), 12.96% (Q2), to 14.75% (Q3).
In contrast, we saw an increase in missing baseline viral load results from 4.86 (Q1) to 5.70% (Q3), missing gender from 0.88% (Q1) to 1.06% (Q3) and missing age from 0.41% (Q1) to 0.45% (Q3) respectively.
Conclusions: Data quality assessment processes improved surveillance data completeness and reliability.
Variations observed after our interventions emphasize the need for continuous routine data quality assessments.

EP0299

Rates, causes, and determinants of mortality among HIV-positive orphans and vulnerable children in Tanzania

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Background: Child mortality remains a critical issue, particularly in low- and middle-income countries (LMICs), where children, especially those living with HIV, face higher risks of death due to inadequate healthcare access, malnutrition, and poor ART adherence. In Tanzania, despite significant advancements in HIV treatment, children, particularly orphans and vulnerable children (OVC), continue to face major health challenges. This study investigates the rates, causes, and determinants of mortality among HIV-positive OVC receiving ART in Tanzania.
Methods: Data were obtained from the ACHIEVE project (2020-2026), a USAID-funded project in Tanzania. The project followed OVC living with HIV aged 0-19 years and receiving ART and enrolled in the project. Mortality data for the children including cause of death were collected by community volunteers at household level and verified at the health facility. During October 2023–September 2024, ACHIEVE reported 81 deaths of HIV-positive OVC, while 19,854 remained alive at the end of the year. Data analysis involved calculating mortality rate, reviewing causes of death, and performing multivariate logistic regression to identify factors associated with mortality among OVC.
Results: A total of 19,935 OVC living with HIV (51.2% female) were analyzed, with 81 deaths observed, resulting in annual mortality rate of 4 deaths per 1,000 children. The main causes of death included malaria (21%), measles (13%), pneumonia (10%), tuberculosis (TB) (8.3%), fever (8%), diarrhea (8%), and anemia (6%). In the multivariable analysis, significant determinants of mortality in children were being on non-DTG-based regimens with a 14-fold higher risk of death compared to their DTG counterparts (aOR=14.04, 95% CI 7.21–27.33, p<0.001), while children with HIV-negative caregivers had a 3.46 times higher risk (aOR=3.46, 95% CI 1.46–8.25, p=0.005). Additionally, urban residence was protective, reducing mortality risk by 49% (aOR=0.51, 95% CI 0.31–0.84, p=0.008).

Conclusions: Although the annual mortality rate is relatively low, significant risks were observed among OVC on non-DTG regimens and those with HIV-negative caregivers. Malaria, measles, pneumonia, and TB were the leading causes of death. Urban residence was a protective factor. To reduce mortality risk, efforts should focus on increasing access to DTG-based regimens, strengthening caregiver support, and addressing healthcare disparities, particularly in rural areas.

EP0300

Determinants of sustained HIV viral suppression among pregnant and breastfeeding mothers enrolled in prevention of mother-to-child transmission program in Rwanda

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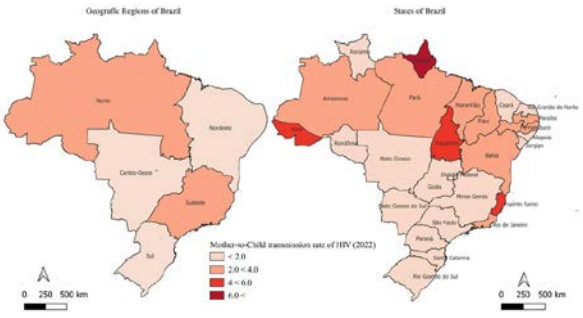
Background: HIV viral suppression among pregnant and breastfeeding mothers is critical for eliminating mother-to-child transmission (MTCT) of HIV. The transmission can occur during pregnancy, during delivery and breastfeeding period. Maintaining viral suppression throughout these stages is critical for reducing HIV transmission to infants. This study aimed to identify key determinants of sustained HIV viral suppression among mothers enrolled in Prevention of Mother-to-Child Transmission (PMTCT) program in Rwanda.
Methods: This retrospective cohort study was conducted across 283 health facilities in Rwanda on pregnant and breastfeeding mothers living with HIV who were enrolled in the PMTCT program. The study included mothers who were followed from pregnancy through the end of the breastfeeding period between July 2016 and June 2020. Viral suppression was defined as a viral load of <200 copies/mL, while non-suppression was defined as a viral load ≥200 copies/mL. Sustained viral suppression was achieved if a mother maintained a suppressed viral load throughout pregnancy and breastfeeding. Data were analyzed using Stata version 17, logistic regression were used to identify determinant of sustained viral suppression throughout the PMTCT follow-up period.
Results: A total of 5,454 mothers were included in the analysis. Among, 83% had maintained viral suppression during follow-up. The majority of mothers with suppressed viral loads were aged 35–44 years (50.5%). Mothers who were HIV positive before pregnancy and on treatment showed 85% suppression rate ($p < 0.001$). In multivariate analysis, identified determinant of sustained viral suppression were age 25–34 years (aOR: 2.36, 95% CI: 1.35–4.15), living in northern province (aOR: 3.25, 95% CI: 1.78–5.9), adherence to antiretroviral therapy at 6, 12, 18, and 24 months (aOR ranging: 10.1 –17.64), and male partner support during antenatal care (aOR: 1.4, 95% CI: 1.00–1.83).
Conclusions: Maintaining viral suppression throughout the PMTCT period is essential for ensuring good health outcomes for both mothers and their infants. Key determinant of sustained viral suppression include being aged 25–34 years, living in rural province, consistent adherence to antiretroviral therapy, and receiving male partner support during antenatal care. Interventions should be focus on these determinants to enhance viral suppression among mothers enrolled in the program.

EP0301

Mother-to-child transmission rate and the progress of Brazil towards elimination to HIV

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Background: Brazil has a universal healthcare system with over 30 years of experience in implementing HIV/AIDS policies. The national goal of eliminating of HIV mother-to-child transmission (MTCT) is a key component of efforts to address socially determined diseases. The country's disease reporting system, the mortality information system, access to the national universal antiretroviral distribution network and CD4 and viral load testing contribute to robust epidemiological surveillance. These systems allow for comprehensive tracking of MTCT cases across both public and private sectors, ensuring accurate monitoring of the MTCT elimination goal. This study aims to estimate MTCT rates in Brazil, following the implementation of routine case identification and confirmation of HIV MTCT cases through different national information systems.
Methods: The HIV-MTCT rate was calculated by dividing the number of children acquiring with HIV from public and private sectors, by year of birth, and by the total number of pregnant women infected with HIV, by year of delivery, within the same period.
Results: In 2019, 254 children were diagnosed with HIV; 190 in 2020; 180 in 2021 and 146 in 2022. The respective HIV MTCT rates were: 3% (2019); 2.3% (2020); 2.2% (2021) and 1.9% in 2022. In 2022, the North (2.6%) and Southeast (2.2%) regions had the highest MTCT rates in the country.



Conclusions: The availability of several reliable national information systems, together with a routine support from the Ministry of Health for timely case notification at the state level. strengthens surveillance efforts. The HIV-MTCT rate serves as a key indicator for evaluating MTCT. The most recent data indicates that Brazil has achieved

the goal for elimination set by PAHO/WHO. Brazil is also advancing in consolidating information for the process indicators required for MTCT certification.

EP0302

Trends in HCV testing and data reporting across EECA: insights from the COBATEST Network (2017–2023)

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Background: Monitoring and evaluation (M&E) of Hepatitis C (HCV) testing are essential for informed decision-making and improving intervention effectiveness. Eastern Europe and Central Asia (EECA) are experiencing rising HCV incidence, driven by factors like injection drug use and limited harm reduction services. Fragmented data collection hinders accurate tracking of prevalence and intervention impact. Strengthening data processes is crucial for understanding the epidemic and targeting interventions. The COBATEST network, a European network of community testing centers, supports standardized data collection in EECA. This study highlights the progress of network members in reporting HCV data and presents key findings from the data reported.
Methods: Only COBATEST member centers from EECA that submitted data from 2017 to 2023 were included. Persons aged <16, previously diagnosed, or with missing test results were excluded. Only the most recent record per client each year was kept. Descriptive analysis of the data and key indicators was performed.
Results: From 2017 to 2023, 26 centers from 17 EECA countries reported 73,290 HCV tests. Except for 2017, when only 3 centers reported data, between 7 and 11 centers reported each subsequent year. However, only 7 centers consistently reported annually. Testing dropped by 44.5% in 2020 but increased by 34.8% in 2021. Excluding 2017, the lowest number of tests was 7,032 in 2020, and the highest was 17,646 in 2022. In 2023, tests declined by 9.7% to 15,930. The proportion of reactive tests rose from 8.6% in 2017 to 29.8% in 2023, peaking at 46.2% in 2022. The total proportion of reactive test results from 2017 to 2023 was 26%.
Conclusions: This study highlights trends in HCV testing across COBATEST members from EECA. While testing numbers fluctuated, with a significant decline in 2020 and recovery in 2021, the data emphasizes the need for consistent HCV testing. Despite a decrease in reported tests in 2023, the proportion of reactive tests increased, suggesting more individuals at risk are being identified. However, only a few members consistently report data, highlighting the need for stronger support in data collection. Strengthening data reporting is essential for targeted interventions and improving HCV prevention and treatment strategies in the region.

EP0303

Evaluation of the surveillance system for children who acquired HIV by mother-to-child transmission, Brazil from 2018 to 2022

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Background: HIV/AIDS surveillance in Brazil was established in 1986 and is within the scope of actions of the universal health system. The notification/investigation is relatively complete, based on the natural history of the disease, being the main source of information for planning and evaluation of public policies. Several factors are related to the quality of the surveillance system.
The study aimed to evaluate the HIV/AIDS surveillance system in children acquiring by mother-to-child transmission (MTCT), reported between 2018 and 2022 in Brazil.
Methods: An evaluative, retrospective descriptive study following the guidelines of the Guide for the Evaluation of Public Health Surveillance Systems of the Centers for Disease Control and Prevention.
The data were analyzed from the perspective of the Notifiable Diseases Information System (SINAN), in the quantitative attributes (opportunity), qualitative (simplicity, quality of data) and utility. Data analyzed with descriptive statistics.
Results: The surveillance system was considered complex due to the need for laboratory diagnostic confirmation, patient follow-up in the health service, and use of other information systems for monitoring, screening and reporting new cases.
The completeness of mandatory and essential variables in the notification was good (93.6%), however it does not reflect the adequate filling of the data, having ignored filling in 43% for schooling and 23.6% in maternal race/color. Data consistency was good in 91.3% of the database. There is still a low chance of diagnosis (37%), notification (27.3%) and typing (44.1%) of the data in SINAN.

Variables	2018 (n=385)	2019 (n=567)	2020 (n=249)	2021 (n=290)	2022 (n=301)	Average	Classification
Completeness							
Mandatory							
Sex	100.0	100.0	100.0	100.0	100.0	100.0	Excellent
Schooling	97.1	97.7	98.0	97.2	98.3	97.7	Excellent
Federative Unity	100.0	99.8	100.0	100.0	99.3	99.8	Excellent
Municipality of residence	100.0	99.8	100.0	100.0	99.3	99.8	Excellent
Mother's schooling	100.0	100.0	100.0	100.0	100.0	100.0	Excellent
Mother's race/color	100.0	100.0	100.0	100.0	100.0	100.0	Excellent
Evolution of the case	100.0	100.0	100.0	100.0	100.0	100.0	Excellent
Essential							
Race/color of the child	99.0	99.1	99.6	97.8	99.0	98.9	Excellent
Name of the mother	97.2	99.3	100.0	100.0	100.0	99.3	Excellent
Neighborhood	88.3	90.9	94.4	94.5	96.3	92.9	Good
Type of address	95.8	96.3	98.0	99.0	94.4	96.7	Excellent
Area of residence	95.6	84.3	92.8	95.2	95.7	92.7	Low
Complementary							
Age of the mother	75.1	66.9	79.9	69.7	73.4	73.0	Regular
Federative Unit where the treatment is carried out	84.7	79.5	90.4	90.3	87.7	86.5	Regular
Municipality where the treatment is carried out	81.3	76.2	85.1	86.2	83.4	82.4	Regular
Health Unit where the treatment is performed	73.8	70.8	81.9	80.7	78.4	77.1	Regular
Final classification of completeness						93.6	Good
Consistency							
Age of mother equal to 10 years or less than 49 years	99.1	99.1	100.0	100.0	99.5	99.5	Excellent
Date of diagnosis 8 weeks Date of birth (except death) (N=1,712)	95.7	96.1	95.8	89.3	90.7	93.5	Good
Death variable with completion of the date of death variable	100.0	100.0	100.0	100.0	100.0	100.0	Excellent
Reported cases of children under 13 years old (N= 2,156)	78.1	87.7	85.3	86.8	88.3	85.2	Regular
Case classified with criteria 100 600 and 901 (N=2,711)	80.1	87.5	74.4	74.5	75.3	78.3	Regular
Final Consistency Rating						91.3	Good
Opportunity							
Diagnostic opportunity ≤ 18 months	27.3	39.9	37.8	39.3	40.5	37.0	Low
Opportunity for notification ≤ 7 days	28.3	20.6	26.9	27.9	32.6	27.3	Low
Typing opportunity ≤ 7 days	39.0	52.7	51.0	33.8	44.2	44.1	Low
Final classification of the opportunity						36.1	Low

Conclusions: The surveillance system was considered useful. Good consistency of the database implies data reliability and good acceptance of the system for surveillance purposes. The low opportunity for notification and

typing directly impacts on indicators used to formulate policies and technologies in confronting HIV-MTCT. It is recommended to strengthen the training of professionals for early diagnosis and data quality in notifications.

EP0304

Evolving patterns of mortality causes and associated factors among people living with HIV (PLHIV) with unsuppressed viremia in Southern Nigeria: a retrospective cross-sectional study

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Background: Antiretroviral therapy has transformed HIV from a fatal to a chronic manageable condition. However, unsuppressed viremia elevates the risk of disease progression and death.

This study assessed the causes of death (COD) and factors associated with mortality among PLHIV with unsuppressed viraemia in southern Nigeria.

Methods: This retrospective cross-sectional study analysed mortality data of people living with HIV (PLHIV) with unsuppressed viral load (>1000copies/ml) from July 2023 to September 2024 across 255 health facilities in Akwa Ibom and Cross River states. The COD was determined using verbal autopsy (VA) by interviewing the client's relatives using the WHO verbal autopsy tool and analysing the responses using the WHO SmartVA algorithm. The COD derived from this process was then entered into the electronic medical records.

Data was abstracted from the electronic medical records including sex, age (children: 0-14years, adults:>14 years), comorbidities, and viral load (VL) counts (High-VL (HVL)):1001–100,000, Very-High-VL (VHVL):>100,000 copies/ml) as of the last clinic visit. COD was categorised into AIDS-related (AIDS or tuberculosis), non-communicable disease (NCD)-related, and others. Chi square statistic was used to assess factors associated with mortality at a significant p-value set at <0.05 using STATA version 14.

Results: A total of 3,078 PLHIV were virally unsuppressed, with a mean age of 36 years (SD±13) and mean duration on ART of 5 years (SD ± 4); 66.7% (n=2053) were females, 3.5% (n=108) had comorbidities, and 24.3% (n=749) had VHVL.

Over 5.1% (n=157) PLHIV with unsuppressed viraemia died within the period assessed, with mortality significantly higher among males (6.7% vs. 4.3%, p=0.004), those with shorter ART duration (6.4% vs. 3.4%, p<0.001), comorbidities (19.4% vs. 4.6%, p<0.001), and VL >100,000 copies/ml (9.9% vs. 4.3%, p<0.001). Of the 67 records with a documented COD, 25.4% (17/67) were specifically AIDS-related, 19.4% (13/67) were NCD-related and 55.2% (37/67) were due to combination of other factors,. There was no significant difference in AIDS-related deaths across demographic and clinical characteristics.

Conclusions: While AIDS-related deaths contributed significantly to deaths among PLHIV with unsuppressed viral load, over half of the documented causes were due to non-AIDS-related factors, underlining the growing importance of addressing broader health determinants and comorbidities among PLHIV.

EP0305

The use of Kenya's primary care networks to scale up detection and monitoring of HIV recent infection in resource limited settings

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Background: The surveillance of HIV recent infection has been well characterized in the developed world, but limited surveillance is available in resource-constrained settings facing the largest burden of HIV infection. In Rachuonyo North, we adopted the primary care network model to scale up the detection and monitoring of HIV recent infection.

Description: In collaboration with MOH and Partners LVCT and UCSF, all the HIV Testing sites were marked for recency surveillance (RS). Recent infection was defined as infection acquired within the last 12 months. The HIV testing site were the spoke and two Hubs were then set where rapid test for recent infection (RTRI) and data entry to the national would be conducted. Trained riders were used to transport samples and the Laboratory request forms between the Hub and the spoke sites.

Lessons learned: Before the adoption of primary care network model, only two facilities were involved in recency surveillance, and thereafter between August 2022 and June 2023, 31 (72%) of the 43 HIV testing sites were enrolled to RS. Within the period under review, 495 participants were legible and enrolled to recency surveillance, 85% (423/495) of the participants had sample sent to the hub for RTRI testing, 33 missed phlebotomy due to commodity stock out and 20 participants declined sample collection. Out of the 423 samples collected, 8% (33/423) were of recent infection and there Viral load samples were taken for further testing as per the recent infection testing algorithm, whereas 89% (376/423) were long term infection. Three samples tested negative for RTRI, while 11 samples were not tested due to stock out of test kits.

Conclusions/Next steps: Recent HIV infection surveillance should be enhance to cover all the HIV testing site including home based testing and outreaches since the identification of recent HIV infection is important for two main public health reasons: It helps detect people during a period of increased transmissibility, which can guide intervention efforts making better use of scarce resources, and it allows real-time tracking of trends in new infections at the population level, which helps with the timely evaluation of prevention efforts.

EP0306

Prevalence of acquired HIV drug resistance in Pakistan: a national clinical-based survey

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Background: The World Health Organization recommends that HIV antiretroviral therapy (ART) scale-up be accompanied by routine monitoring and surveillance of HIV drug resistance (HIVDR) to improve the quality of ART services. This includes monitoring of acquired HIVDR in populations receiving ART. In Pakistan, overall, ART coverage is low; however, most adults have been transitioned to a DTG-based regimen Among individuals receiving ART, viral load suppression is estimated at 23%. To date, no national clinical-based survey of acquired HIVDR has been conducted.
We conducted the first nationally representative clinic-based survey of acquired HIVDR in Pakistan. Here we report the prevalence of acquired HIVDR towards ART drugs among adults and children with viral non-suppression.
Methods: A nationally representative clinic-based cross-sectional survey was conducted using WHO-recommended protocol. Adults and children (age <15 years) were enrolled if they had been on treatment for at least 6 months. A sample size 771 was determined to be sampled across 58 ART centers via probability proportional to proxy size (PPPS). Blood plasma samples were subjected to viral load (VL) testing; specimens with unsuppressed VL (≥1000 copies/ml) were genotyped (RT, PR, and INT regions) using PCR and a Sanger-based sequencing strategy to identify HIVDR-associated mutations.
Results: Between date and date, 785 individuals (435 adults and 350 children) were enrolled; 103 samples (22 adults; 81 children) were found to be virally non-suppressed. Fifty-one individuals (18 adults and 33 children) were on a DTG-based regimen.
In adults, DRMs K103N (36.6%), V179VE (n=13.6%) against RT-inhibitors and R263K against INSTIs were the most prevalent DRMs. Efavirenz (63.6%), Nevirapine (36.36%), Emtricitabine (72.7%), Lamivudine (27.27%), Doravirine (13.6%) were the drugs most affected by the DRMs.
In children, DRMs K103N (55.5%), E138A (20.9%), M184V (54.2%), L74M (7.4%) and L74IM (7.4%), were the most prevalent DRMs. Nevirapine (24.6%), Efavirenz (25.9%), Emtricitabine and Lamivudine (38.2%) and Doravirine (59.2%) were the drugs most affected by the DRMs
Conclusions: The results highlight resistance rates for different ART inhibitors, especially RT inhibitors and INSTIs , among adults and children in Pakistan. This warrants ongoing monitoring of acquired HIVDR and optimized regimens and/or resistance testing within ART programs for virally non-suppressed individuals.

EP0307

Assessing viral suppression in Pakistan: insights from the first national HIV survey

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Background: As of June 2024, 46,991 of estimated 290,000 people living with HIV were registered for HIV treatment in Pakistan, representing only 16% treatment coverage. Viral load testing coverage among those receiving treatment is 29%, and 77% of them achieved suppression according to programme data. To better understand viral suppression rates, we present a sub-analysis of a national acquired HIV drug resistance survey
Methods: Using WHO's clinic-based methodology, we employed a two-stage cluster design. ART clinics were selected via probability proportional to proxy size, and eligible individuals were sampled consecutively. Participants underwent viral load testing, and non-suppressed cases (≥1000 copies/mL) underwent HIV drug resistance genotyping at a WHO-designated laboratory.
Results: A total of 785 participants were enrolled from 37 centers across 5 provinces, with 58.2% adults and 41.8% children. Among adults, 68.3% identified as male, 28.5% female, and 3.2% transgender, while among children, 57.2% were boys and 42.8% girls. The mean age of participants was 25.2 years (adults: 38.8 years (range 18–73); children: 8.4 years (range 1–16)).
Sexual exposure was the most commonly reported mode of transmission in adults (63.2%), while mother-to-child transmission was the most common in children (40.4%).
Nosocomial transmission (unsafe injections or blood transfusion in healthcare) was reported in 14.3% of adults and 22.6% of children. Almost all the adults (94.5%) and half the children (47.4%) were on a DTG-based regimen.
Overall, 86.6% of participants achieved viral suppression, and 70.8% had undetectable viral loads (<50 copies/mL). Viral suppression was significantly higher in adults than in children (94.5% vs 76.9%, p < 0.001).
In adults, suppression was associated with the province (p=0.0082), self-reported adherence (p=0.0081), DTG-based regimens (97.7% vs 47.8%, p=0.0045), and prior viral loads <1000 copies/ml (97.8% vs 85.7%, p < 0.0002). In children, suppression was higher on DTG-regimens (90.6% vs 54.5%, p < 0.0002), with prior viral loads <1000 copies/ml (93.0% vs 61.5%, p=0.006), and urban dwellers (84.9% vs 72.3%, p=0.011).
Conclusions: Viral suppression rates in Pakistan are higher than previously estimated, especially in adults. However, suppression rates and slow transition to DTG in children remain low, highlighting the need for targeted interventions tailored to pediatric populations.

EP0308

The association between maternal HIV and stillbirths in an era of universal ART in pregnancy in the Western Cape, South Africa

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Background: This study investigates the relationship between maternal HIV and stillbirths within the framework of universal antiretroviral therapy (ART) during pregnancy in the Western Cape, South Africa.

Methods: Data from the Western Cape Pregnancy Exposure Registry (PER) spanning January 2017 to December 2021 was analysed, including 15,123 participants aged 18 or older with documented HIV status and pregnancy outcomes beyond 20 weeks. Key variables included maternal HIV status and the quality of antenatal care (ANC) according to WHO guidelines.

Descriptive and logistic regression analyses were performed to evaluate stillbirth rates and odds ratios among women living with HIV (WLHIV) compared to those without HIV, considering clinical and demographic factors, ANC quality, and visit frequency

Results: WLHIV had a median age of 31 years (IQR: 26-35), which was higher than that among women without HIV, 26 years (IQR: 22-31). Stillbirth rates were higher among WLHIV, at 17 per 1000 births (95% CI: 13.34-20.66), compared to 14 per 1000 births (95% CI: 11.75-16.25) for women without HIV. Maternal HIV-positive status was not significantly associated with stillbirths (AOR = 1.15, 95% CI: 0.87-1.52, p = 0.34).

However, longer ART duration was linked to a 47% reduction in stillbirth odds (AOR = 0.53, 95% CI: 0.33-0.93, p = 0.01). Poor-quality ANC showed a non-significant trend toward increased stillbirth odds.

Conclusions: The study found no significant association between maternal HIV and stillbirths, differing from findings in other low- and middle-income countries. The overall stillbirth rate was 15/1000 births, above the WHO target of ≤12/1000 by 2030 but lower than previous South African rates. Prolonged ART use was associated with a notable reduction in stillbirth odds.

Despite non-significant findings regarding ANC quality, our results highlight the importance of continued improvements in ART access and ANC quality to enhance maternal and fetal health outcomes.

Modelling the HIV pandemic

EP0309

Understanding the impact of PrEP adherence on HIV incidence through community-level drug concentrations: mathematical modeling analysis of the Monitoring PrEP in Young Adult women (MPYA) study in western Kenya

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Background: Despite high HIV incidence among women in East Africa, oral pre-exposure prophylaxis (PrEP) adherence varies widely. The Monitoring PrEP in Young Adult Women (MPYA) study offered PrEP to 18–24-year-old women in central and western Kenya, measured effective PrEP use through tenofovir-diphosphate (TFV-DP) concentrations in dried blood spots (DBS), and assessed self-reported sexual behavior.

We modeled PrEP effectiveness in MPYA, PrEP scale-up in western Kenya, and community-level TFV-DP concentrations indicative of reaching incidence goals.

Methods: We estimated relationships between having multiple sexual partners and detectable (>100 fmol/punch) or high (>400 fmol/punch) TFV-DP concentrations with mixed-effects regression. We translated concentrations into HIV incidence reductions using a recent meta-analysis of pooled PrEP trials. Using a network-based transmission model, EMOD-HIV, we simulated expanding PrEP, with adherence as observed in MPYA, to various proportions of young women (ages 18–24) in western Kenya. Finally, we determined community-level TFV-DP concentrations indicative of achieving <0.1% incidence among young women by 2040.

Results: In MPYA, 21% of DBS had detectable TFV-DP concentrations; 14% had high concentrations, corresponding to 43.5% and 85.7% reductions in HIV acquisition. Having multiple sexual partners correlated with detectable TFV-DP concentrations (OR: 2.18, 95% CI: 1.22–3.90, p<0.01), but had no significant association with high concentrations among those with detectable TFV-DP (p=0.69).

Expanding PrEP to all sexually active young women in western Kenya (corresponding to high TFV-DP concentration in ≥9% of young women) would avert 1 HIV acquisition/926 person-years on PrEP (95% CI: 851–1007) and reach <0.1% incidence among young women by 2040 vs. 2046 without the intervention (*Figure*).

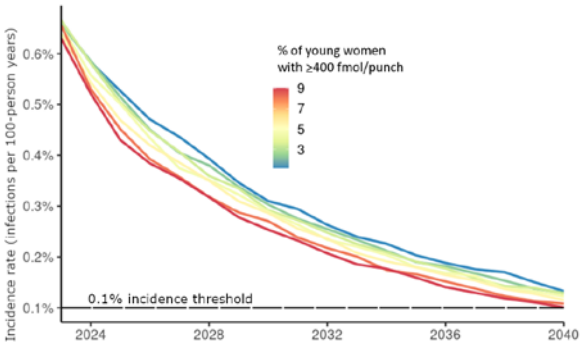


Figure. HIV incidence among young women with varying proportions having high TFV-DP concentrations.

Conclusions: Oral PrEP as observed in MPYA could achieve <0.1% incidence by 2040 if scaled widely to young women in western Kenya. Community TFV-DP measurement provides novel assessment of progress toward HIV incidence goals.

EP0310

The role of safe space model in increasing uptake of HIV Oral Pre-Exposure Prophylaxis among adolescent girls and young women in Malawi DREAMS Program (2021-2024)

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Background: Adolescent Girls and Young Women (AGYW) continue to be vulnerable to HIV acquisition compared to their male counterparts. In 2024, the HIV Incidence for AGYW in Malawi was 4 times higher than that of ABYM. The United States Government through PEPFAR implemented Determined, Resilient, Empowered, AIDS-free, Mentored and Safe (DREAMS), an HIV prevention program, in 15 countries including Malawi from 2016 to 2024. DREAMS aimed at reducing HIV incidence among Adolescent Girls and Young Women (AGYW) aged 10-24 with higher risk of HIV acquisition. DREAMS program used safe space model to provides a private, youth friendly, safe and supportive environment where AGYW access information, built social networks, discussed issues regarding their overall health and needs without fear of judgment.
Examples of safe spaces were empty classrooms, church halls and community centers for AGYW weekly gatherings. The program provided HIV biomedical prevention services including oral Pre-exposure prophylaxis (PrEP) in safe spaces to increase access and reduce distance to facilities.
Methods: Retrospective data for 93,427 and 128,822 AGYW aged 15-24 enrolled in 2021 and 2024 respectively were extracted from Malawi's DREAMS Database representing before and after implementation of safe space model PrEP service delivery. Data were analyzed using Wilcoxon Signed-Rank Test, to compare oral PrEP service uptake by AGYW after the introduction of the safe space model for oral PrEP service delivery.
Results: Results showed a 96% increase in oral PrEP uptake in 2024 when community safe space model was used for delivery of this biomedical service compared to 2021 when AGYW were referred to health facilities. Oral PrEP service uptake was statistically significant [p-value < 0.05 (0.03125)]. HIV incidence reduced from 0.23 in 2021 to 0.15 in 2024 among AGYW.
Conclusions: The DREAMS safe space model, an essential prevention-focused investment, contributes to increasing HIV biomedical services uptake, including PrEP among AGYW at higher risk of HIV acquisition. The model bridges the gap to service access and uptake created by distance, transport money and time. The model remains central for curbing new HIV acquisition.

EP0311

Predicting ART interruptions: a machine learning approach among PLHIV in Haiti

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Background: Long-term retention on antiretroviral therapy (ART) is essential to improving clinical outcomes and reducing HIV transmission among people living with HIV (PLHIV). However, interruption in treatment (IIT) remains a persistent barrier. Machine learning (ML) models have shown promise in predicting adverse health events and, when integrated into health information systems, enable proactive, targeted interventions.
This study developed and integrated a classification model to predict IIT among PLHIV within 28 days in Haiti's ART program.
Methods: PLHIV were classified as IIT if they failed to return for a refill within 28 days of their scheduled follow-up date. Data were obtained from the national Electronic Medical Records (EMR) system for the period January 1, 2016, through October 7, 2024. After data cleaning, the final dataset included 72,070 PLHIV: 55,181 with active treatment status and 16,889 with IIT status. Given the unbalanced nature of the dataset, class imbalance techniques were applied during training, including weighting the loss function to penalize misclassification of the minority class. Eight ML classification models were trained and evaluated, with XGBoost emerging as the best-performing model. A cross-validation strategy (K-folds = 10) and an 80/20 train-test split were applied alongside hyperparameter tuning. Model performance was assessed using accuracy, sensitivity, specificity, precision, F1-score, and area under the receiver operating characteristic curve (AUC).
Results: The final XGBoost model achieved an accuracy of 90.02%, specificity of 70.43%, sensitivity of 96.02%, and an AUC of 0.938. The model was successfully integrated into

the national EMR system to generate weekly risk updates for healthcare workers at selected facilities. Key predictors of IIT included years of continuous ART engagement, the total number of historical viral load tests, and recent viral load results. Gender and time since HIV diagnosis contributed minimally to prediction outcomes.

Conclusions: The integration of an ML-based IIT prediction model into Haiti's EMR system provides an efficient tool for identifying PLHIV at risk of treatment interruption, facilitating early interventions such as targeted outreach via phone calls or in-person visits.

Future research should explore the inclusion of additional sociodemographic and behavioral predictors to further enhance model performance and address barriers to ART continuity.

EP0312

Incorporating non-communicable diseases into HIV care to strengthen health policy in Eswatini: a modeling study

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Background: Among people living with HIV (PLHIV) in low- and middle-income countries, especially as the average age of PLHIV rises, chronic inflammation from viral infection persists, and cardiometabolic side effects of HIV treatment accumulate. Studies show that PLHIV are 1.95 times more likely to develop Type 2 diabetes than HIV-negative individuals.

This study aims to develop an infectious and non-communicable diseases (NCDs) co-modelling tool and evaluate an illustrative intervention integrating HIV and Type 2 diabetes care in Eswatini.

Methods: We developed the Model of Inter-Generational Health, Transmission, and Interventions (MIGHTI), a dynamic agent-based simulation built on the Starsim disease modeling framework (starsim.org), which represents major sources of morbidity and mortality.

The model includes sexual transmission via relationship networks and inherited and vertically transmitted conditions (e.g., mother-to-child transmission).

It also captures HIV-NCD interactions by incorporating the increased susceptibility of PLHIV to Type 2 diabetes, alongside screening/testing sensitivity, specificity, and intervention effectiveness.

We calibrated MIGHTI to demographic, HIV prevalence, and NCD prevalence data in Eswatini and simulated HIV care alone and in combination with Type 2 diabetes screening and treatment from 2025 to 2050.

Results: Our preliminary results suggest that in the absence of integrated NCD care, Type 2 diabetes prevalence among in-care PLHIV aged 18+ will increase from 5.29% in 2025 to 19.43% in 2050.

In 2025, we estimate that 41.6% of all Type 2 diabetes cases will occur in PLHIV aged 50+, rising to 69.9% by 2050.

By 2050, Type 2 diabetes prevalence is expected to remain higher among PLHIV than in HIV-negative individuals, with PLHIV having 2.94 times higher T2D prevalence than HIV-negative individuals in 2025, and 4.68 times higher in 2050.

Conclusions: Integrating Type 2 diabetes screening and treatment into HIV care could avert a large proportion of diabetes-related mortality in Eswatini.

Future research should extend to additional NCDs and assess the cost-effectiveness and feasibility of interventions to support decision-making. Multi-disease simulators such as MIGHTI provide a useful platform for these analyses.

EP0313

How will delays in the scale-up of long-acting HIV pre-exposure prophylaxis impact health benefits and cost-effectiveness in South Africa? A mathematical modeling study

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Background: Long-acting pre-exposure prophylaxis (LA-PrEP) represents a potentially transformative innovation in HIV prevention that is much-needed in South Africa, home to the world's largest HIV-positive population, with >1 in 6 adults living with HIV. Despite growing recognition of its potential, LA-PrEP scale-up has been delayed in South Africa due to factors including limited product supply allocated for African countries.

We aimed to estimate the effect of delayed introduction on the health benefits and cost-effectiveness of LA-PrEP over the next 35 years.

Methods: We adapted a stochastic individual-based network model, EMOD-HIV, to simulate LA-PrEP scale-up in South Africa beginning in 2025, 2030, 2035, 2040, nor never. Primary outcomes were (1) averted HIV deaths by 2060, and (2) the maximum amount that could be paid to deliver one person-year of LA-PrEP while remaining cost-effective at <US$500 per disability-adjusted life-year (DALY) of averted HIV burden, which we estimated through 2060 with 3% annual discounting.

We varied the extent to which LA-PrEP use would concentrate in populations with elevated HIV incidence, using as a proxy the risk score derived from the Vaginal and Oral Interventions to Control the Epidemic (VOICE) clinical trial, versus broadly used by sexually active adults across all population segments.

Results: Delaying LA-PrEP introduction substantially reduced health benefits regardless of the population segments assumed to uptake LA-PrEP over the next 35 years. In a maximal scenario of LA-PrEP across all sexually active adults in South Africa, scale-up in 2025 could avert 146,000

HIV-related deaths in South Africa by 2060, compared to 76,000 deaths if scale-up began in 2040. Delaying LA-PrEP introduction also greatly reduced the maximum amount that could be paid per person-year of LA-PrEP delivered, on average, over the period of analysis.
Scale-up in 2025 to those with VOICE score ≥5 allowed for up to US$106 per person-year of LA-PrEP delivered, while delaying scale-up to 2040 reduced this to US$70.
Maximum allowable costs were lower when LA-PrEP use included lower-risk populations, but with similar effects from delaying introduction.
Conclusions: Delaying LA-PrEP scale-up would reduce its health benefits and limit the populations and settings where its use could be cost-effective.

HIV prevention research

EP0314

Increased HIV case finding from pre-exposure prophylaxis rollout in Liberia

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Background: Liberia has made significant progress in HIV prevention through the implementation of Pre-Exposure Prophylaxis (PrEP) via the FHI 360-led EpiC project. Collaborating with the National AIDS and STI Control Program and County Health Teams, this initiative has improved access to HIV services and enhanced case detection among vulnerable populations.
Description: In April 2022, six health centers—Steven Tolbert Memorial Hospital, Clara Town Health Center, Nyehn Health Center, Saclepea Comprehensive Health Center, Sister Barbara Ann Health Center, and ELWA Hospital—began providing PrEP services. Utilizing a "hub and spoke" model, these centers served as the core of PrEP initiation and refills, while civil society organizations reached at-risk adults through peer networks.
Community outreach events were crucial in facilitating PrEP access for those who tested negative for HIV and linking individuals with confirmed HIV diagnoses to treatment at the hub.
Lessons learned: HIV testing uptake at the six health facilities improved greatly, contributing to a corresponding increase in HIV-positive cases identified. Data were compared before and after the intervention (October 2021–September 2022 vs. October 2022–September 2023).
Overall, HIV testing increased from 20,654 to 26,750 (29%) (Table 1).
At one facility (Stephen Tolbert), HIV testing increased markedly, from 220 to 1,836 (734%). The number of new HIV cases identified also rose significantly, from 702 to 1,352, reflecting a 93% increase. HIV case finding increased from 700 (3.39%) to 1,349 (5.05%).

Health Facility	Number of tests		% Change	Number of reactive results (case-finding rate)	
	2021–2022	2022–2023		2021–2022	2022–2023
Steven Tolbert Memorial Hospital	220	1,836	734%	10 (5%)	26 (1%)
Clara Town Health Center	4,475	7,905	77%	192 (4%)	422 (5%)
Nyehn Health Center	559	816	46%	40 (7%)	61 (7%)
Sacleapea Comprehensive Health Center	2,015	2,456	22%	60 (3%)	95 (4%)
Sister Barbara Ann Health Center	5,165	5,631	9%	183 (4%)	428 (8%)
ELWA Hospital	8,220	8,106	-1%	217 (3%)	320 (4%)
Total	**20,654**	**26,750**		**702 (26%)**	**1,352 (29%)**

Conclusions/Next steps: Although one facility experienced a decline in testing, the overall trend indicated improved access to preventive measures and greater community engagement with HIV services. This initiative illustrates the essential role of PrEP in Liberia's response to HIV and offers critical insights for future public health efforts.

EP0316

PrEP offer and uptake among HIV-negative testers in public primary health care facilities in Malawi: a cross-sectional study

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Background: Uptake of pre-exposure prophylaxis (PrEP) for HIV prevention has not met targets in many African countries. Malawi began providing free oral PrEP at public sector clinics in April 2019 and long-acting injectable PrEP in March 2024. Little is known about the extent to which eligible clinic attendees are offered PrEP, how many accept it, and the reasons for acceptance or refusal.
Methods: From 8-31 May 2024, we interviewed up to 50 adults (≥16) seeking HIV testing at each of 12 public sector clinics in Malawi's Chiradzulu, Blantyre, and Lilongwe districts. Participants were enrolled sequentially as they arrived at the clinics.
Those who tested HIV-negative were asked about their experiences with testing services, information provided about HIV prevention, whether they were screened for or offered PrEP, and whether they accepted PrEP if offered.
We used descriptive statistics to summarize participant demographic characteristics, and testing experiences. Continuous variables were described using medians and interquartile ranges (IQR) where appropriate.
Categorical variables are described using frequencies and percentages. Analysis was conducted using STATA version 14 (Stata Corp, College Station, Texas, USA).
Results: We enrolled 555 HIV-negative participants. Two-thirds (66%, 365) of those who tested negative were aware of PrEP, but only 8% (42/555) had previously been offered it. Most (79%, 440) were asked for were asked questions

about HIV transmission risk, but only a quarter (26%, 143) reported that PrEP was discussed with them, of which, 41 (29%) were offered PrEP. Over half (59%, 24) who were offered PrEP accepted it.
For those who did not accept PrEP, the reasons offered included perceived low risk of HIV exposure, belief that it was not necessary, not being sick, risk of perception of infidelity in a stable relationship, and not being ready to take PrEP.
Conclusions: Most negative testers were aware of PrEP and reported being asked about HIV transmission risk, indicating that healthcare providers are increasingly incorporating HIV risk screening into routine care.
However, direct communication about PrEP between providers and clients remains limited despite this. Enhancing provider-client dialogue is essential to bridge the gap between PrEP awareness, offer and actual uptake.

EP0317

PrEP preferences, acceptability and utility of a decision support tool to inform PrEP choices among young African women in the INSIGHT cohort

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Background: African adolescent girls and young women (AGYW) experience high HIV incidence but their adherence and persistence with pre-exposure prophylaxis (PrEP) is often low. AGYW's PrEP use may be improved if their risk perception, motivation, and knowledge about PrEP were higher. A decision support tool (DST) could inform AGYW's perceived risk and need for PrEP.
We assessed PrEP preferences, and the acceptability and utility of a PrEP DST, "*MyPrEP*", in increasing AGYW's interest and knowledge about PrEP.
Methods: From August-December 2022, we enrolled sexually active, HIV-negative AGYW ages 16-30 from six African countries (15 South African sites, and 1 each in Eswatini, Kenya, Malawi, Uganda, and Zambia) into the INSIGHT cohort. AGYW were offered daily oral PrEP at enrollment, months 1, 3 and 6 and adherence assessed using a qualitative urine tenofovir assay.
The *MyPrEP* DST was administered at month 6 and participants were asked about PrEP preferences, knowledge and interest in different PrEP formulations and acceptability of the *MyPrEP* DST.
We assessed factors influencing interest in daily oral PrEP, 2-monthly injectable cabotegravir (CAB-LA) and monthly dapivirine vaginal ring (DVR) using multivariable logistic regression models.
Results: 3087 AGYW enrolled with 2795 (90.5%) attending the month 6 visit, a median age (IQR) of 24 years (21,27), 74.9% were South African, 95.6% had a primary sex partner, and 99.2% initiated oral PrEP. PrEP preferences were CAB-LA (52.8%), monthly oral PrEP (31.5%), daily oral PrEP (25.5%), weekly oral PrEP (12.3%), and DVR (5.4%).
There was increased interest (56.4%, 53.8%, 40.3%) and knowledge (66.3%, 67.3%, 58.8%) about CAB-LA, oral PrEP and DVR, respectively, after using *MyPrEP*. A positive urine tenofovir result was associated with increased interest in daily oral PrEP (aOR 1.64, 95% CI: 1.36, 1.98) and CAB-LA (aOR 1.21, 95% CI: 1.01, 1.45). Overall, 90% indicated strongly liking getting information from *MyPrEP*.
Conclusions: AGYW indicated a strong preference for long-acting oral and injectable PrEP despite only having actual experience with daily oral PrEP.
The *MyPrEP* DST was highly acceptable, increasing participants' interest and knowledge about PrEP formulations. DSTs could facilitate AGYW's assessment of their HIV risk and informed choices about PrEP options.

EP0318

PEPFAR-supported HIV pre-exposure prophylaxis coverage among female sex workers and gay, bisexual, and other men who have sex with men in 26 sub-Saharan Africa countries, October 2021– September 2024

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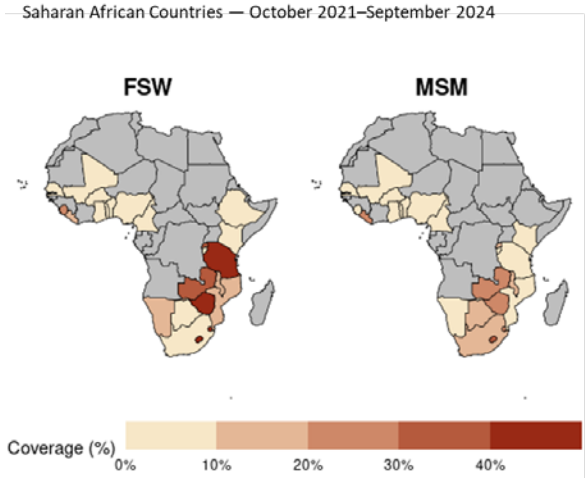
Background: Female sex workers (FSW) and men who have sex with men (MSM) are disproportionately affected by HIV and prioritized for HIV preexposure prophylaxis (PrEP), but current estimates of PrEP coverage among these populations are unavailable. We estimated PrEP coverage supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR) for these populations in sub-Saharan African (SSA) countries by leveraging program data and population size estimates.

Methods: We extracted the number of quarterly PrEP users, including those initiating and continuing, from October 2021–September 2024 for 26 countries from PEPFAR's Monitoring, Evaluation, and Reporting system and calculated the population of FSW and MSM aged 18–49 years without HIV by country using recent population size estimates.

We estimated the proportion accessing PrEP services each quarter, PrEP coverage, by dividing quarterly PrEP users by the population without HIV and calculated 95% confidence intervals (CIs) using a Monte Carlo method.

Results: From October 2021–September 2024, PrEP coverage among FSW increased from 5.4% (95% CI: 4.0–6.9) to 13.9% (95% CI: 10.3–17.7). Coverage among MSM increased from 3.8% (95% CI: 3.1–4.5) to 8.9% (95% CI: 7.5–10.7). Coverage ranged widely across countries (Figure): By July–September 2024, the median country-level coverage among FSW had reached 8.7% (range 0.1–49.4%), while the median country-level coverage among MSM had reached 7.3% (range 0.0–33.5%). Growth in coverage ranged widely between countries, with a median country-level increase of 4.7% (range: -0.1–37.7%) among FSW and 4.5% (range: -0.2–20.3%) among MSM.

Figure: HIV Preexposure Prophylaxis Coverage (Proportion of Female Sex Workers and Men Who Have Sex with Men Accessing PrEP Services) Supported by the President's Emergency Plan for AIDS Relief in 26 Sub-Saharan African Countries — October 2021–September 2024



Conclusions: PEPFAR-supported PrEP coverage among FSW and MSM without HIV in SSA was low and growth was modest. These findings suggest a need for renewed commitment, enabling policies, non-discriminatory laws, and resources to fill gaps in programming. Additional options, including more dosing schedules and long-acting products, may support higher coverage.

EP0319

Expanding PrEP access through a community-based refill model in Kajiado West sub-county, Kenya

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Background: Differentiated service delivery (DSD) for pre-exposure prophylaxis (PrEP) provides a novel approach to HIV prevention that is flexible and client-centered. Existing models of PrEP implementation do not adequately address barriers around stigma, frequent clinic visits and rigid scheduling that hinder good adherence and PrEP accessibility.

Methods: Starting April 2022, UoN-USAID *Fahari ya Jamii* project collaborated with Kajiado County to implement a DSD model for PrEP clients that involved community distribution of commodities through a peer and health care worker led model. Five out of eight low-volume facilities in

Kajiado West were selected. Clients chose pick-up points upon PrEP initiation. These included satellite dispensaries, shopping centres and *Manyattas,* with on-site HIV re-testing for those eligible. Implementation was spearheaded by facility clinicians, and monitoring of the intervention done monthly by monitoring and evaluation officers from the subcounty and the project.

We performed a retrospective review of the pre- and post-implementation data from PrEP registers and electronic medical records. All patient records from April 2022 to April 2024 were included. Descriptive and bivariate analyses were performed.

Results: Of 92 clients that were enrolled in this model, 48 (52%) were female. Forty-eight (52%) were discordant couples, 2 (2%) were key populations (KPs), adolescent girls and young women (AGYW) were 16 (17%), 1 (1%) was a breastfeeding woman and 23 (25%) were general population in the high-risk category.

Overall, 84% (67/80) of the clients were retained on PrEP at 6+ months, compared to 68% (19/28) pre-implementation. The percentage of patients continuing treatment was consistently high from 2022 to 2024, with 62.5%, 64.5%, and 100%, respectively, resulting in an overall rate of 72.8%. Ten to 19-months discontinuation without ongoing risk varied, appearing in 12.5% of cases in 2022 and 17.7% in 2023, but none in 2024, for an overall rate of 13.0%. There was a significant association between year and outcome (χ^2 = 11.206, p =.024).

Conclusions: DSD for PrEP was effective in improving continuity among clients initiated on PrEP.

EP0320

Long-acting HIV PrEP preferences through pregnancy and the postpartum period among women in Kenya: a latent transition analysis

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Background: Adherence to daily oral HIV PrEP wanes over pregnancy and postpartum periods and new long-acting injectable HIV PrEP (LAI-PrEP) methods may address barriers to adherence. Understanding changing preferences for LAI-PrEP during the perinatal period could inform the integration of new HIV prevention methods and maternal healthcare.

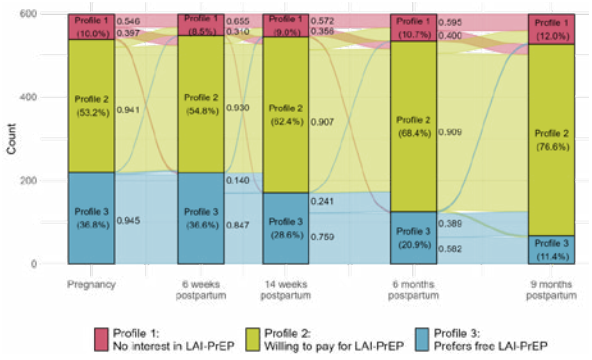
Methods: We used data from a randomized trial of pregnant women initiating oral PrEP in antenatal care followed through 9 months postpartum (NCT04472884) at five public facilities in western Kenya. Participants completed surveys on LAI-PrEP interest and preferences from the third trimester through nine months postpartum. Latent Transition Analysis (LTA) was used to examine the underlying patterns of LAI-PrEP interest throughout pregnancy and postpartum. Predictors of profile transitions between profiles were assessed using univariate logistic regression.

Results: Overall, 598 participants enrolled in pregnancy with a median age of 25 years (IQR: 22–29). Nearly two-thirds (63.2%) had at least secondary education, 21.1% had regular employment, and 70.6% were married.

We identified three profiles of LAI-PrEP preferences: "No interest in LAI-PrEP", "Willing to pay (WTP) for LAI-PrEP", and "Prefers free LAI-PrEP". Approximately 10% comprised the "No interest in LAI-PrEP" at each time point (Figure 1).

In pregnancy, 36.8% belonged to the "Prefers free LAI-PrEP" profile, with participants increasingly transitioning to "WTP for LAI-PrEP" through the postpartum period.

The "WTP for LAI-PrEP" profile grew from 53.2% in the third trimester to 76.6% at nine months postpartum. Women who were primigravida had 5-fold higher odds of transitioning from "WTP for LAI-PrEP" to "Prefers free LAI-PrEP" (95% CI: 5.29 - 5.39, p<0.001).



Conclusions: Most women belonged to a profile interested in LAI-PrEP across pregnancy and postpartum, with the willingness to pay for LAI-PrEP membership growing over time. Expanding PrEP options within MCH systems to include LAI-PrEP, especially for postpartum and primigravida women, could improve PrEP use during this critical period.

EP0321

Long-term retention in facility-based HIV pre-exposure prophylaxis services among female sex workers in Tanga, Tanzania: a prospective cohort study

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Background: To achieve a high level of impact of pre-exposure prophylaxis (PrEP) at the population level, retention in PrEP services among people at high risk of HIV is of paramount importance. Evidence is scarce on long-term retention in PrEP services among female sex workers in Sub-Saharan Africa.
The objective of this study was to determine the long-term retention in facility-based PrEP services and its determinants among female sex workers in Tanzania.
Methods: We conducted a prospective cohort study involving 313 female sex workers (≥18 years) enrolled by respondent-driven sampling in the City of Tanga, Tanzania. We followed each participant attending for PrEP service at Ngamiani Health center for 16 months between 2022 and 2023. Information on PrEP attendance/refill was extracted from PrEP files using case report form at 16th month. Long-term *retention in PrEP care* was defined as the cumulative proportion of participants attending ≥3 PrEP clinical follow-up visits in the first 16 months after PrEP initiation. A multivariable logistic regression model with clustered robust standard error was used to determine factors associated with long-term retention in PrEP services at p<0.05.
Results: Among 313 participants, the median age was 27 (IQR: 23-32) years, 72.2% self-perceived to be at high risk of HIV, 63.9% experienced "moderate" sex work stigma and 80.2% perceived "low" PrEP stigma. More than half (64.6%) had inadequate PrEP knowledge and 99.4% had high PrEP self-efficacy. At baseline, 4.2% had a history of STIs, and three (3) participants had a positive test for hepatitis B virus. Long-term retention in PrEP care was 11.0% (95% CI: 7.67-15.61). The determinants of long-term retention were having self-perceived "high" PrEP stigma (aRR 0.16, 95%CI: 0.03-0.99, p=0.049) and self-perceived "moderate" HIV risk (aRR 5.03, 95%CI: 1.37-18.47, p=0.015).
Conclusions: The long-term retention in facility-based HIV PrEP care was low. Perceived "moderate" HIV risk and "high" PrEP stigma were positively and negatively associated with long-term retention respectively, suggesting. These suggest that female sex workers face challenges to be retained in facility-based PrEP services for a long time. Client-cantered approach is recommended to address PrEP stigma and reinforce self-HIV risk assessment among female sex workers using facility-based PrEP services.

EP0322

Early Infant Diagnosis surveillance system evaluation, Mongu and Ndola District 2024, Zambia

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Background: The Early Infant Diagnosis (EID) surveillance system is a crucial indicator of how a country is faring in the early diagnosis of HIV in infants and determining how the Elimination of the mother-to-child transmission program is effective and efficient. EID surveillance system has not been evaluated in Zambia. This evaluation aimed to assess the system's performance in two cities with a high burden of HIV infection.
Methods: A qualitative approach was employed, including interviews, document reviews, and site visits to health facilities in Western and Copperbelt provinces. Data collection focused on the operational aspects of the EID surveillance system and its effectiveness in meeting program goals.
The MMWR Guidelines for Evaluating Surveillance Systems were used to evaluate the EID surveillance system. Attributes evaluated included; simplicity, flexibility, acceptability, timeliness, and stability.
Results: The EID surveillance system demonstrated high simplicity and efficiency, with Point-of-Care (POC) testing significantly reducing turnaround times. Flexibility was evident through adaptations such as new data collection tools and minimal training requirements.
The system showed high acceptability among stakeholders and sensitivity in detecting HIV in infants. While the system was operationally stable, it relied heavily on external support. Timeliness was robust, with rapid diagnosis and prompt initiation of care.
However, challenges included reliance on external funding, stock-outs of testing supplies, logistical barriers, and refusal of treatment by some mothers.
Conclusions: The system effectively supports Zambia's efforts to eliminate mother-to-child transmission of HIV by enabling early detection and treatment. Also, the EID surveillance system is a critical tool in Zambia's HIV response. While it has achieved notable successes, addressing operational and sustainability challenges is essential to ensure its continued effectiveness and alignment with national and global elimination targets.

EP0323

Pre-exposure prophylaxis awareness and associated factors among HIV-negative Female Sex Workers in Rwanda, 2023

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Background: Pre-exposure prophylaxis (PrEP) is an essential HIV prevention tool for female sex workers (FSWs) in Rwanda, a group with high HIV prevalence. While a study in Kigali reported 81% awareness of PrEP among FSWs, this study assessed nationwide awareness and examined factors influencing it.

Methods: A cross-sectional bio-behavioral survey was conducted from May to June 2023 among 2,541 FSWs aged 15 and older across Rwanda. Of these, 1,675 HIV-negative participants were analyzed to assess PrEP awareness, defined as having ever heard of PrEP. Data were adjusted for recruitment biases using Gile's sequential sampling weights, and statistical analyses, including Chi-square tests and multivariate logistic regression, were performed using STATA 17 to identify predictors.

Results: Majority of HIV-negative FSWs were aged 25–34 years (44.4%, 95% CI: 40.1–48.7) and had completed primary education (53.1%, 95% CI: 48.7–57.4). Most were single (77.4%, 95% CI: 74.4–80.5), while only 44.2% (95% CI: 39.9–48.6) were enrolled in key populations (KPs) programs at health facilities.

Awareness of PrEP was 60.2% (95% CI: 55.8–64.5), with 51.5% (95% CI: 46.0–56.9) of those having ever used it in their lifetime and 37.0% (95% CI: 31.9–42.4) having used it in the past six months. Awareness was higher (82.8%, 95% CI: 76.6–87.6) among FSWs enrolled in KP programs at health facilities.

Multivariate analysis identified predictors of being unaware of PrEP as never attending school (aOR: 1.8, 95% CI: 1.2–3.2), being married or cohabiting (aOR: 4.0, 95% CI: 1.4–11.5), and not enrolled at KP programs at health facilities (aOR: 7.6, 95% CI: 4.8–11.9).

Conclusions: PrEP awareness among HIV-negative female sex workers (FSWs) in Rwanda remains below optimal levels, with disparities influenced by factors such as education, marital status, and access to HIV program support.

Although key population-friendly services are increasingly available at health facilities nationwide, addressing stigma and discrimination is essential to improving disclosure and access to HIV prevention services for FSWs.

Expanding the reach of HIV program assistance and implementing targeted interventions for underserved FSW subgroups are critical steps to enhancing PrEP awareness, increasing uptake, and ensuring equitable access to HIV prevention tools.

EP0324

Awareness and acceptability of Doxy-PEP for the prevention of sexually transmitted infections among persons living with HIV in two Nigerian hospitals: a cross-sectional assessment

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Background: Sexually transmitted infections (STIs) are becoming more widespread globally and can negatively impact treatment outcomes of antiretroviral therapy (ART). It is essential for Persons Living with HIV (PLHIV) to be aware of preventive measures against STIs such as Doxycycline Post-exposure Prophylaxis (Doxy-PEP) which has shown efficacy in preventing some STIs such as Chlamydia, Gonorrhea and Syphilis.

This study evaluated the level of awareness among PLHIV in two Nigerian hospitals regarding the utilization of Doxy-PEP as a preventive measure against STIs, as well as their willingness to consider its use.

Methods: Employing a cross-sectional study design, we used an 18-item structured and self-administered questionnaire to collect data from PLHIV at two hospitals in southeastern Nigeria: faith-based Bishop Shanahan Hospital (BSH) and the government-owned University of Nigeria Teaching Hospital (UNTH). Data was collected from 334 participants (152 from BSH and 182 from UNTH) from November to December, 2024. Inferential and descriptive analysis were done using IBM SPSS 27.0 where significance was set as $p < 0.05$.

Results: More than half of the respondents were females (n = 242; 72.45%) and were within the age of 35-44 years (n = 114, 34.1%). Of the 334 participants, 294 (88.0%) were unaware of Doxy-PEP, with 150 (44.9%) respondents reporting that they would prefer to receive information about Doxy-PEP at healthcare facilities.

Most respondents (n = 276; 82.6%) were willing to use Doxy-PEP if accessible, citing STI prevention (30.5%) as a key reason. Having a higher educational qualification ($p = 0.001$), engagement in entrepreneurship ($p = 0.038$) and being unmarried were associated with better knowledge of Doxy-PEP.

Conclusions: The level of awareness of Doxy-PEP is low in the two hospitals whereas the willingness to use it is high. Awareness or education on Doxy-PEP as a prophylaxis for STIs should be increased especially in rural communities. Healthcare providers should educate more PLHIV about Doxy-PEP and its role in STI prevention.

EP0325

Experiences of disclosure of oral pre-exposure prophylaxis (PrEP) and dapivirine vaginal ring use among South African women using PrEP: a qualitative study

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Background: Oral pre-exposure prophylaxis (PrEP), and the dapivirine vaginal ring (DVR) are effective in preventing HIV. However, their success is dependent on effective use. Studies show that disclosing oral PrEP use enhances adherence. While experiences of oral PrEP disclosure are well-documented, little is known about DVR disclosure and how experiences might differ, given its discreet, long-acting nature.
This study explores experiences of oral PrEP and DVR disclosure among South African women.
Methods: This study is nested within an implementation study evaluating the introduction of new PrEP methods in eight primary healthcare and four linked mobile clinics in South Africa. Women ≥18 years, enrolled in a cohort offering an option of PrEP methods, and having used either oral PrEP or DVR, were purposefully invited to participate in focus group discussions (FGDs). Between April and May 2024, 12 FGDs were conducted with 126 women aged 18-57 years across sites in two provinces. FGDs explored, among other themes, experiences with disclosing PrEP use, factors influencing disclosure, and reactions of person to whom they disclosed. FGDs were audio-recorded, transcribed, and analysed thematically.
Results: Women reported greater disclosure of DVR use than oral PrEP, primarily to friends, partners, and family. Disclosure occurred both voluntarily and involuntarily. DVR disclosure to partners was mostly involuntary, occurring when partners felt the DVR or when it was accidentally expelled, while voluntary disclosure to friends was motivated by the belief they may be interested in using the DVR themselves. Voluntary disclosure of oral PrEP was influenced by partners' familiarity with oral PrEP. Both methods elicited supportive reactions, with oral PrEP disclosures leading to daily reminders and praise, and DVR disclosure resulting in support with insertion and pick-up reminders. However, oral PrEP disclosure sometimes led to mistrust and HIV-related stigma, while DVR disclosure led to mistrust, requests for removal, myths, and efficacy concerns.
Conclusions: Our study contributes new findings on PrEP disclosure among women offered an option of oral PrEP or DVR in real-world settings. While most disclosures elicited supportive reactions, negative reactions highlight the need for ongoing counselling and support for PrEP users, and education and engagement with key influencers.

EP0326

Preference for long-acting injectable HIV PrEP among adolescent girls and young women accessing sexual and reproductive health services at retail pharmacies in Kenya

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Background: Adolescent girls and young women (AGYW) frequently access sexual and reproductive health services at retail pharmacies in Kenya and HIV PrEP delivery is being studied in this setting. Yet, discontinuation is common among AGYW who initiate either daily oral HIV PrEP or the dapivirine vaginal ring (DPV-VR) within pharmacies. We assessed the preferences for long-acting injectable HIV PrEP (LAI-PrEP) among AGYW accessing contraception and HIV PrEP at retail pharmacies in Western Kenya.
Methods: We analyzed data from AGYW participating in an ongoing cluster randomized controlled trial (NCT05467306) investigating pharmacy-based HIV PrEP delivery models at 20 retail pharmacies in Kisumu, Kenya. PrEP-eligible AGYW (ages 15–24) purchasing contraception were offered daily oral HIV PrEP or the monthly DPV-VR per national guidelines. Preferences for LAI-PrEP was ascertained at one-month follow-up visits, analyzed and presented descriptively.
Results: From May 2023 to January 2024, 1511 AGYW enrolled in the trial and were eligible for one-month follow-up visits. Among the 1241(82%) AGYW who completed month one follow-up, the median age was 21 years (IQR 19–23), most (83%, 1030/1241) were unmarried, and roughly half reported casual sexual partners (59%, 732/1241) and a prior pregnancy (54%, 670/1241).
Oral PrEP or DPV-VR uptake among AGYW at enrollment was 82% (1017/1241). If LAI-PrEP became available, two-thirds (66%, 819/1241) of AGYW reported that they would prefer this over oral PrEP or DPV-VR.
Preference for LAI-PrEP varied among AGYW who accepted oral PrEP (67%, 539/810), DPV-VR (71%, 156/220), or declined both (59%, 125/211) (p<0.001). Primary reasons for preferring LAI-PrEP included longer action duration (84%, 687/820) and pill burden elimination (84%, 691/820).
Primary concerns about LAI-PrEP included injection site pain (69%, 276/403) and potential side effects (51%, 207/403). Retail pharmacies were identified as the most preferred location for LAI-PrEP access (78%, 641/820) followed by healthcare clinics (16%, 130/820) and family planning clinics (5%, 40/820).
Conclusions: LAI-PrEP was preferred among AGYW seeking sexual and reproductive health services at retail pharmacies in Kenya. Scaling up LAI-PrEP within pharmacies could reach AGYW at high risk for HIV acquisition in this setting.

EP0327

Circumcision for HIV prevention in men who have sex with men: a 2024 update on evidence

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Background: Voluntary medical male circumcision (VMMC) is recommended for HIV prevention for men who have sex with women in sub-Saharan Africa. However, consensus on its effectiveness for men who have sex with men (MSM) is lacking, partly due to inconsistencies between studies. A 2024 randomized trial conducted in China showed protection among primarily-insertive MSM. We conducted an updated review of observational data to clarify the total weight of the evidence.

Methods: We conducted a systematic global observational literature search through mid-October 2024 on the association of HIV with circumcision in MSM, adding published biobehavioral survey (BBS) reports in our possession and studies available only as abstracted data in prior meta-analyses (e.g., inaccessible dissertations).

We excluded studies from VMMC-implementing countries, where self-selection of MSM with HIV out of VMMC creates bias toward protection. We analyzed all results, and the subgroup stratifying by sexual positioning, as VMMC is expected only to benefit MSM with predominantly-insertive roles.

We accepted all measures of association, normalizing their coefficients (CoAs) so values <1 reflect protection. We categorized findings as "lower-risk, significant" (LRS; CoA < 0.94, p<.05), "not significant" (LRNS; p≥.05), "neutral" (CoA 0.94-1.06), "higher-risk, not significant" (HRNS; CoA>1.06), and "significant" (HRS).

For studies stratifying by sexual positioning, we also compared findings among all participants with those in the predominantly-insertive subgroup.

Results: We identified 49 observational studies and BBS reports - 12 not in prior meta-analyses - in five global regions. 8 were LRS, 23 LRNS, 10 neutral, 7 HRNS, and 1 HRS. The median CoA was odds ratio (OR)=0.79; among studies with significant results, it was OR=0.46. Among 12 studies reporting on predominantly-insertive men, nine had 400 or fewer predominantly-insertive participants.

Nine assessed significance: 1 LRS, 4 LRNS, 2 neutral or mixed LRNS/HRNS (stratified by race), 2 HRNS. The median CoA was OR=0.61.

Ten provided CoA estimates for both predominantly-insertive men and all participants (11 total estimates); estimates were lower-risk for predominantly-insertive men than for the full participant pool in 7/11. Confidence intervals overlapped.

Conclusions: In addition to recent trial evidence, and consistent with prior meta-analyses, observational data suggest circumcision may be somewhat protective for predominantly-insertive MSM.

EP0328

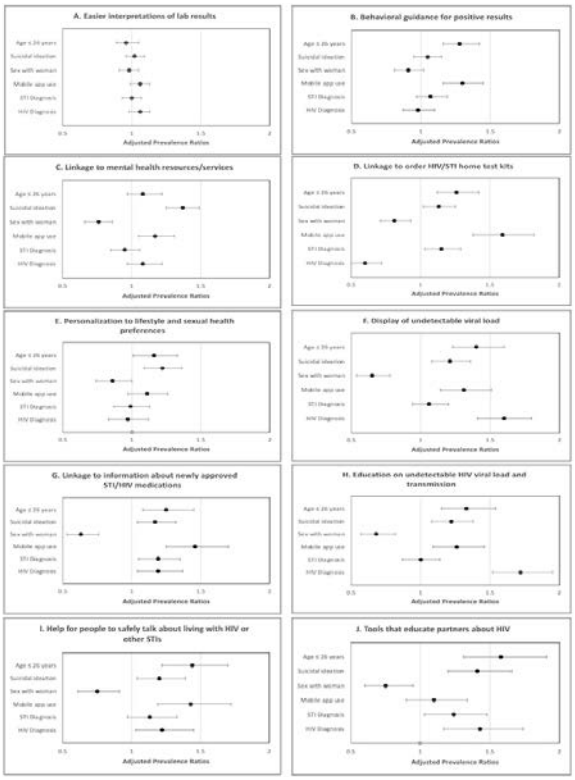
Differences in the desired sexually transmitted infection prevention features for patient portals among men who have sex with men in the United States

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Background: Gay, bisexual and other men who have sex with men (MSM) are more likely to acquire sexually transmitted infections (STIs), including HIV. The development of digital health tools that leverage the patient portal to improve STI prevention and care outcomes are a burgeoning area of research. To inform priorities for designing novel tools, this study explores interest in incoporating 10 specific STI prevention features into patient portals among MSM in the United States.

Methods: Data come from the 2022-2023 American Men's Internet Survey. Participants were asked to indicate which of 10 STI prevention features were desired for incorporation into patient portals. Multivariable Poisson regression analyses with robust error variance were conducted to compare prevalence ratios (PR) for each feature by factors including, (a) age category, (b) suicidal ideation, (c) any type of sex with a woman, (d) mobile app use to meet men, (e) bacterial STI diagnosis in the prior 12 months, and (f) living with HIV.



Results: The final analytic sample included 3,495 participants. The most desired features were: [A] Easier interpretations of lab results (64.2%); [B] Behavioral guidance for positive results (43.1%); and [C] Linkage to mental health

resources/services (40.5%). 'Younger' versus 'older' MSM were more interested, whereas, 'bisexual' versus 'gay' MSM were less interested in all features except [A] and [B]. MSM reporting suicidal ideation had the highest PRs for [B] and [E]. MSM reporting mobile app use to meet men reported the highest PRs for [D] and [G]. MSM living with HIV reported the highest PRs for [F] and [H], while having the lowest interest in [G].

Conclusions: The integration of person-centric STI prevention features into patient portals represent transformational opportunities for increasing patient engagement and improving health outcomes.

Culturally-congruent strategies are required to make the health information in patient portals easier for its users to understand.

EP0329

The influence of self-efficacy, knowledge, and attitudes on PrEP adherence among women engaged in sex work in Southwestern Uganda

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Background: We examined the role of self-efficacy and attitudes on PrEP adherence among women engaged in sex work (WESW) in Southwestern Uganda.

Methods: We conducted a cross-sectional sub-study within the Kyaterekera study (2018–2023), which recruited women engaged in sex work (WESW) aged 18 years and older from HIV hotspots in Southwestern Uganda. This sub-study focused on HIV-negative women who had been on oral PrEP during the final wave of the Kyaterekera study. Participants were surveyed using a validated, interviewer-administered questionnaire in Luganda, capturing socio-demographic information such as age, marital status, education level, and alcohol use.

Attitudes toward PrEP use were assessed through five questions about participants' willingness to use PrEP, with higher scores indicating more favorable attitudes. PrEP knowledge was measured using a 10-item knowledge scale, and self-efficacy was assessed using an 8-item scale, with higher scores indicating greater confidence in using PrEP. Adherence was self-reported based on participants' use of PrEP in the past 30 days.

Descriptive statistics were calculated for all variables. A multivariate logistic regression model was employed, adjusting for potential confounders and clustering at the study site level. Adjusted odds ratios, 95% confidence intervals, and statistical significance were reported.

Results: The study participants had a mean age of 30.77 years, with most being divorced or separated (54.21%) and over half having post-primary education (57%). 40.19% reported good adherence.

Higher odds of good PrEP adherence were significantly associated with higher levels of PrEP self-efficacy (AOR = 1.54, 95% CI: 1.26–1.87, $p < 0.001$) and more favorable attitudes toward PrEP use (AOR = 1.32, 95% CI: 1.03–1.68, $p = 0.029$). PrEP knowledge (AOR = 1.05, 95% CI: 0.52–2.12, $p = 0.897$) was not significantly associated with PrEP adherence.

Conclusions: Fostering positive attitudes toward PrEP use and enhancing self-efficacy is crucial for improving PrEP adherence among women engaged in sex work. Interventions targeting this population should focus on building confidence in PrEP use through tailored support programs rather than solely emphasizing knowledge dissemination.

EP0330

An integrated approach to customary male initiation practices improves access to male circumcision services in Eastern Cape, South Africa

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Background: Male circumcision (MC) is part of the customary male initiation (CMI) activities of AmaXhosa males in the Eastern Cape (EC) Province as part of the rite of passage from boy to manhood. We assessed the effect of an integrated model of CMI support to offer high quality, safe MC services to males in five districts supported by Right to Care (RTC) and Population Service International (PSI) in EC.

Description: The integrated model of CMI support involved community entry processes, community advocacy campaigns on Safe MC, screening of prospective initiates for chronic illnesses, MC procedure, follow-up, and adverse events management.

Routine program data were collected using standardized tools. The data were captured and stored in a cloud data storage system and later analyzed using descriptive analysis.

Program indicators' data from Financial Year (FY) 2016-2018 (before implementation) and FY2019-2022 (after implementation) were compared.

Lessons learned: In the period of this study, a cumulative number of 280,483 MMCs were performed in the five EC districts with 237,864 (85%) MMCs performed after the implementation of this model. Only 26,079 males aged 15-24 (12%) were circumcised before the implementation of this model, compared to 198,876 (88%) circumcised after the implementation.

The circumcision rate for the 15-24 years age group increased dramatically from 1.8% before implementation to 11.4% after the introduction. Equally, 87% of males had at least one follow-up after MMC after implementation compared to 13% before implementation.

The uptake of HIV testing service was improved from 76.94% before implementation to 94,65% after implementation. There was a reduction of 64, 888 (13%) in the population of 15-24-year-old males in these five districts over the period of this study.

Conclusions/Next steps: The results demonstrated that the implementation of the integrated model of CMI support in the EC contributed to a shift towards reaching the 15-24 years age group for circumcision services including

total number of males circumcised, proportion of males tested for HIV and follow-up after circumcision procedure. This model is a viable option to implement on CMI practicing communities to scale up MMC services in SA.

EP0331

Factors associated with awareness and utilization of pre-exposure prophylaxis for human immunodeficiency virus (HIV) prevention among MSM in Rwanda

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Background: Pre-exposure prophylaxis (PrEP) is an essential biomedical intervention to prevent HIV among men who have sex with men (MSM). Despite its availability, the uptake and awareness levels among MSM in Rwanda remain suboptimal.

This study investigated the factors associated with PrEP awareness and utilization among MSM in Rwanda.

Methods: A secondary analysis of data from the Bio-Behavioral Surveillance (BBS) survey was conducted in 2024 using respondent-driven sampling.

Multivariate logistic regression models were used to identify determinants of PrEP awareness and utilization, focusing on demographic, social, and behavioral factors. Adjusted odds ratios (AORs) and 95% confidence intervals (CIs) were reported.

Results: We analyzed data of 3757 MSM and nearly a half (48.1%) aged 18 to 24 years PrEP awareness among MSM was 48.57% (95% CI: 45.76–51.39), while utilization was 22.42% (95% CI: 19.27–25.92).

Awareness was significantly associated with residing in the North (AOR: 2.66; 95% CI: 1.80–3.94) and South (AOR: 1.45; 95% CI: 1.07–1.97), being a merchant (AOR: 2.87; 95% CI: 1.47–5.60), self-employed (AOR: 3.37; 95% CI: 1.53–7.42), or a sex worker (AOR: 29.29; 95% CI: 6.25–137.29), and exposure to HIV-related messages (AOR: 2.75; 95% CI: 2.12–3.57). PrEP utilization was higher among individuals who traveled outside the country for sex (AOR: 7.60; 95% CI: 1.81–31.60), those using male condoms during sex (AOR: 1.34; 95% CI: 1.04–1.72), and self-employed individuals (AOR: 11.63; 95% CI: 1.89–71.53).

Conversely, losing respect in the community (AOR: 0.63; 95% CI: 0.45–0.87) and avoiding illicit drug use (AOR: 0.38; 95% CI: 0.16–0.89) were negatively associated with utilization.

Conclusions: PrEP awareness and utilization among MSM in Rwanda are influenced by regional, occupational, and behavioral factors. Targeted interventions addressing awareness gaps, regional disparities, and stigma are critical for improving PrEP uptake. These findings emphasize the need for personalized strategies to promote PrEP accessibility and usage within this high-risk population.

EP0332

HIV pre-exposure prophylaxis uptake and continuation among adolescent girls and young women enrolled in the DREAMS Urban Model Program in Masaka-Wakiso, Uganda, 2023-2024

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Background: Adolescent girls and young women aged 15-24 years have the highest HIV incidence in Uganda. The Determined Resilient Empowered AIDS-free Mentored Safe (DREAMS) is an HIV prevention program aimed at reducing HIV infections among AGYW.

We present experiences, lessons learned from providing Pre- Exposure prophylaxis, an HIV prevention strategy to AGYW most at risk of acquiring HIV in Masaka-Wakiso region of Uganda.

Methods: The program was implemented from October 2023 to September 2024 in 11 districts. We screened AGYW 15-24 years for HIV, STIs, PrEP eligibility using Ministry of Health recommended screening tools if they fulfilled criteria for being most at risk of HIV acquisition like irregular condom use, multiple sexual partners, transactional sex, recurrent sexually transmitted diseases, early pregnancy. Eligible AGYW were offered Prep and were initiated at the health facility, safe spaces or outreaches.

Interventions to improve uptake and adherence included: peer-to-peer support and reminders, use of PrEP ambassadors, health educations, home delivery, male partner engagement, keeping PrEP drugs at the safe spaces.

Follow up for continuity was done through phone calls and home visits. Data was entered in the Uganda DREAMS Tracking system, we analysed PrEP uptake as proportion of AGYW enrolled and retained on PrEP through PrEP registers and Ms Excel.

Results: A total of 21,938 AGYW were enrolled 15-19years, of which 14,253 (65%) were screened and all tested HIV negative. A total of 1,414 (9.6%) were eligible for PrEP with more than one risk; 521 (36%) were engaged in transactional sex, 242 (17.1%) had multiple sexual partners, 446 (31.5%) had an STI, 181 (12.8%) irregular condom use, and 603 (42.6%) had history of pregnancy. Of AGYW eligible for PrEP, 989 (69.9%) were initiated on PrEP.

However, 591 (59.7%) continued with PrEP while 398 (40.2%) discontinued PrEP due to perception of reduced HIV risks (108, 27.1%), behavioural change (203,51%), fear of daily pill burden (87,21%).

Conclusions: The tried interventions were effective for Prep uptake, there is need to intensify engagement of Prep champions to conduct adherence counselling, improve the drug package and consider Roll out of Injectable Cabotegravir for all AGYW in the DREAMS program.

EP0333

Community priorities for PrEP research and delivery: insights from the People's Research Agenda

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Background: Daily oral tenofovir-based Pre-exposure Prophylaxis (PrEP) has become the most widely used ARV-based prevention method since its 2015 approval, with over 7 million people initiating globally. Over time, additional prevention products have entered the research pipeline, with some approved and others under investigation.
Innovations like injectable options, including cabotegravir (CAB) and lenacapavir (LEN), have transformed HIV prevention by offering diverse delivery mechanisms, protection durations, and adding choice.
Despite advancements, barriers such as stigma, limited access, costs, and inequitable rollout hinder uptake, sustained use, and impact. Meaningful community engagement remains vital to ensure product development translates into impact.
Description: The Coalition to Accelerate & Support Prevention Research (CASPR) developed the People's Research Agenda (PRA) to identify community priorities for the HIV prevention R&D pipeline. The PRA employed a mixed-method approach, engaging over 130 advocates from 23 countries. Data collection took place between March and August 2024 through surveys, focus groups, and convenings.
The collected data was synthesized, analyzed, and validated, culminating in the launch of the PRA in October 2024. The PRA provides key recommendations for advancing the pipeline; here, we present targeted recommendations for PrEP research and delivery.
Lessons learned: The PRA highlighted that PrEP R&D require people-centered approaches, emphasizing:

- Implementation science should prioritize understanding user preferences, adherence patterns, product switching in the context of choice, and challenges with PrEP continuation and reinitiation.
- Future product modifications, such as self-administered ARV-based methods or alternative dosing schedules have the potential to expand prevention services and increase user choice.
- Equitable access requires early action to address systemic barriers, including costs, licensing, and supply chain challenges, alongside investments in provider training and community engagement.
- Social and behavioral science integration, along with early engagement with policymakers and regulators during the research phase, is essential to mitigate potential bottlenecks in the rollout and scaling of new technologies.

Conclusions/Next steps: Communities play an important role in shaping HIV prevention R&D and delivery. The PRA provides a clear roadmap for aligning innovations with community-defined needs and preferences. In 2025, the PRA will focus on developing a framework for advocacy, decision-making and accountability to address critical gaps in HIV prevention research and delivery.

EP0334

Factors influencing PrEP adherence among female sex workers (FSWs) in Kinshasa, Democratic Republic of Congo: a longitudinal, mixed-methods cohort study

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Background: The Democratic Republic of Congo (DRC) has low HIV prevalence in the general population, with much higher prevalence and incidence among female sex workers (FSWs) than other key populations. PrEP adherence is one of the strategies to reduce HIV prevalence and incidence among FSWs.
The aim of the study was to identify factors influencing PrEP adherence among FSWs in Kinshasa, DRC as well as determine the retention rate of FSWs at the PrEP site during follow-up.
Methods: We used both quantitative and qualitative approaches. The quantitative part was a 6-month longitudinal cohort follow-up of 120 FSWs in 4 user-friendly centers in Kinshasa in 2024. We also conducted 12 in-depth interviews with purposively selected FSWs. Pill count and self-reported missing doses in the past 7 days were used to measure adherence. Multivariate logistic regression was used to identify factors influencing adherence to PrEP, and thematic analysis was used for the qualitative part.
Results: A total of 120 FSWs on PrEP were included. The median age was 28 years (IQR: 24-37 years). During follow-up, adherence improved in all four sites (80% adherents at Month 1, 93% at Month 3 and 95% at Month 6). In the quantitative part, the independent factor associated with non-adherence was being forced to have sex in the last month (aOR :6.35; CI 95% :1.57-25.65).
Sex as the only source of income (aOR :0.19; CI 95% :0.09-0.42), systematic condom use (aOR: 0.042; CI 95%: 0.002-0.73) and duration of more than 2 years as a PS (aOR 0.04; CI 95%:0.003-0.60) had good adherence. For the qualitative part, the barriers to adherence were stock-outs at the facility, persistence of side effects, mobility and hunger.
There was no seroconversion during follow up, and retention at the sites was 92% at Month 3 and 84% at Month 6 respectively.
Conclusions: Our results highlight obstacles to PrEP adherence among FSWs in the DRC. Future interventions should aim at helping FSWs to improve PrEP uptake and community awareness, and structures to support FSWs to face the challenges related to PrEP uptake.

EP0335

HIV periconception PrEP as an empowerment tool for women in HIV-serodifferent relationships or otherwise exposed to HIV in southwestern Uganda

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Background: Uganda has one of the world's highest fertility rates, yet HIV prevention before pregnancy remains under-addressed, despite robust perinatal transmission prevention services for pregnant women with HIV. Women in HIV-affected partnerships often engage in condomless sex to fulfill personal and sociocultural goals of having children, placing them at risk of HIV.

This study explores how women initiate and adhere to PrEP as a peri-conception HIV risk-reduction strategy.

Methods: The study provided safer conception care to HIV-negative women in rural Uganda who reported a partner who is likely to have HIV and plans for pregnancy. Participants (N=37 women and N=7 partners) were followed with adherence counseling and qualitative interviews exploring PrEP adherence experiences, barriers, and facilitators. Women were purposively sampled by adherence levels: ≥80%, <80%, and non-use of PrEP. A thematic analysis of interview data was conducted to identify key patterns and insights.

Here, we present a secondary analysis of the qualitative data focused on the challenges women faced during peri-conception and how PrEP emerged as an empowering tool in their HIV prevention journey.

Results: 34 women and 6 men were included in the analysis with a median age of 33 years, with the majority having less than primary education (62%) and reporting self-employment (51%). Women feared HIV acquisition in their partnerships before safer conception counseling.

Women's lack of decision-making and relationship power limited their ability to negotiate HIV prevention strategy use when trying to conceive. PrEP was accepted as a female-controlled method of HIV prevention that did not require male participation, giving women back some control over their sexual and reproductive health.

Through the use of PrEP, women felt empowered, leading them to adhere well to the medication as it was a "rescue method" that improved their self-worth and relationships and gave them hope for having an HIV-free child.

Conclusions: Women may adhere to periconception PrEP in order to exert control over their sexual and reproductive health while maintaining and strengthening their relationships. Incorporating psychological and relational factors into prevention strategies may help optimize use.

EP0336

Changes in product use perceptions during a crossover study utilising placebo long-acting Pre-exposure Prophylaxis (LA-PrEP) injections and implants for HIV-prevention among South African men

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Background: Existing barriers to daily oral PrEP use among men may be mitigated through LA-PrEP delivery methods such as intramuscular injections and subdermal implants. There is limited data on how cisgender men in South Africa, the epicentre of the HIV epidemic, perceive these LA platforms.

To explore their perspectives and experiences, we conducted in-depth interviews (IDIs) with participants from the South African Male User Research on Acceptability of Implants and Injections (SAMURAI) study, a crossover trial evaluating placebo LA-PrEP options.

Methods: Between July 2022 and October 2023, SAMURAI enrolled a total of 184 cisgender men-who-have-sex-with-women-only (MSW) and men-who-have-sex-with-men (MSM) in Johannesburg and Cape Town. Participants underwent a 12-month randomized crossover study of two placebo LA-PrEP products, receiving three bimonthly intramuscular injections and a six-month subdermal implant.

After trying both products a subset of 20 purposively-selected participants (10 MSM and 10 MSW) participated in IDIs at study exit, sharing their experiences and perspectives on study products. Interview recordings were transcribed, translated to English, and thematically coded in Dedoose software, with 10% of the transcripts triple-coded.

Results: Prior to beginning product use, participants expressed initial concerns about the pain associated with injection administration or implant insertion, which were eased by their actual experience of receiving both study products. They found the implant insertion process less invasive and injections less painful than expected. As expectations shifted, so did perceptions around masculinity and product use.

Participants who reported their communities viewing these potential PrEP delivery methods, particularly the implant, as "feminine," were able to educate family and friends on the research and use of these products by men. Many participants expressed willingness to use active ver-

sions of these delivery methods for HIV prevention in the future, citing discreetness, convenience, and longer-term duration of protection as perceived benefits.

Conclusions: After experiencing previously unfamiliar LA-PrEP delivery methods through placebo products in the SAMURAI study, men were open to using both products in the future, overcoming barriers including social stigma and fear of pain. These findings suggest opportunities to achieve acceptability of novel implantable and injectable HIV prevention among South African men.

EP0337

Prescription of HIV Pre-Exposure Prophylaxis and HIV incidence in a cohort of women with Severe Mental Illnesses in the U.S.

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Background: Approximately 20% of HIV diagnoses in the U.S. occur among women. Despite, this pre-exposure prophylaxis (PrEP) use among women has failed to meet the public health need. Women with severe mental illness (SMI) are a priority population for PrEP scale-up and engagement in the PrEP care continuum.

Methods: We utilized data from the Merative MarketScan® Commercial Claims Database to identify women with SMI (schizophrenia, schizoaffective disorder, or bipolar disorder [BD]) between 2010-2022. Enrollees with claims for HIV and those with HepB were excluded. HIV incidence was defined as two outpatient claims (different dates) or an inpatient claim with HIV-associated diagnosis codes. PrEP was defined as prescription for TDF/FTC or TAF/FTC without concurrent prescription for a third antiretroviral. Binomial logistic regressions evaluated associations between demographic and clinical variables and HIV incidence and PrEP use. The PrEP-to-need ratio (PnR) was calculated (PrEP prescription/HIV incidence, per 100,000 people). National PnR data for women (available beginning 2012; publicly-available) was taken from AIDSVu.

Results: Of 225,757 women in the cohort, 206,642 (91.5%) were diagnosed with BD and 19,115 were diagnosed with schizophrenia/schizoaffective disorder. In the BD group, 101 new HIV diagnoses were identified and 281 PrEP prescriptions. In the schizophrenia group, 25 new HIV diagnoses and 22 PrEP prescriptions were identified. Between 2010-2012 the PnR increased from 0.71-3.70 for women with BD and from 1.00-2.50 for women with schizophrenia, the national PnR for women increased from 0.45 to 4.89. HIV incidence was associated with co-morbid stimulant use disorder (aOR=2.76 [1.50-5.09], p<.001), and having encounters for STIs (aOR=2.46 [1.45-4.15], p<.001). Women with SMI in rural areas were less likely to receive PrEP compared to those in urban areas (aOR=0.59 [0.35-0.98], p=.04). Between 2010-2022, the PnR for women with schizophrenia (0.00-2.50) and BD (0.71-3.70) increased, however remained lower than the national PnR (0.45-3.89).

Conclusions: PrEP use relative to HIV incidence among commercially-insured women with SMI is lower than national trends suggesting rates of prescription are not meeting the public health need.

Concerted, specific effort is needed to increase PrEP use among women, especially those living with SMI given disproportionate HIV incidence among this group.

EP0338

The safety and tolerance of PrEP among MSM in China: a prospective cohort study

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Background: Pre-exposure prophylaxis (PrEP) has been demonstrated as an effective strategy for preventing HIV infection. However, its uptake remains suboptimal in China, because of the continuous concerns about drug safety from both the patients and clinicians.

This study aimed to assess the safety and tolerability of oral TDF/FTC for PrEP in a real-world setting of men who have sex with men (MSM) in China.

Methods: An open-label, prospective cohort study was conducted between September 2021 and September 2024 in Guangzhou and Wuhan, China. MSM at high risk of HIV infection were enrolled in the study. Eligible participants were prescribed TDF/FTC as PrEP and followed up for 12 months.

Adverse events (AEs) were self-reported, and participants underwent regular monitoring for HIV and syphilis infections and liver and kidney function during follow-up.

Results: A total of 1,138 participants were enrolled, with 1,045 completing at least one follow-up visit. 7 participants were diagnosed with HIV, resulting in an HIV incidence rate of 0.80 per 100 person-years (95% CI: 0.21–1.39). 68 participants acquired syphilis, yielding an incidence rate of 7.75 per 100 person-years (95% CI: 5.98–9.51).

A total of 63 participants reported 102 AEs, most of which were related to the use of PrEP. Sixteen participants discontinued PrEP due to AEs, with the majority being mild.

Four participants reported Grade 3 AEs and withdrew from the study, two of whom experienced allergic reactions, manifested as acute facial neuralgia.

Additionally, 144 instances of elevated serum creatinine (SCr) and 839 instances of liver function abnormalities were recorded. One participant withdrew from the study due to increased liver enzymes. ALT elevations were primarily observed during the early follow-up period, while SCr elevations occurred predominantly in the later stages.

Conclusions: PrEP with TDF/FTC is safe and well tolerated for the prevention of HIV among Chinese MSM in a real-world setting. Effective PrEP implementation, accompanied by cost-effective and targeted follow-up, will facilitate the promotion and broader use of this intervention in China.

EP0339

Market size and demand estimations to enable introduction and scale-up of community preferred low dead space syringes and needles

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Background: A 2023 systematic review estimated that 2.3 million people who inject drugs (PWID) are living with HIV (15% prevalence) and 5.8 million with hepatitis C virus (HCV) (39% prevalence). Approximately 2.3 million people are co-infected with HIV and HCV, and more than half of them inject drugs.
The practice of sharing of needles and syringes (N&S) among PWID can lead to increased risk of HIV/HCV transmission. Studies have shown that lowering the dead space is associated with reduced survival of HIV/HCV in the remaining blood.
In 2012, WHO recommended that needles and syringe programs (NSPs) offer low dead space syringes/needles (LDSS/N), which may reduce the survival of HIV and HCV and transmission risk.
However, lack of market size and demand estimations for LDSS/N has resulted in limited availability, poor quality and variable prices in low- and middle-income countries (LMICs). We aim to estimate the market size and demand to enable product introduction, accessible pricing and scale up of LDSS/N in LMICs.
Methods: The market size estimation model for LDSS/N was developed based on PWID population, NSP program availability and coverage. Latest available NSP program access data was applied as a proxy for coverage. Number of clients estimated in the base year (2025) was multiplied by WHO target of N&S distribution per PWID to arrive at demand estimates. This was extrapolated cumulatively, informed by industry reports, to provide estimates for 2030.
Results: The potential global market for LDSS/N is estimated at 4.5 billion, with a market value of USD 223 million. Demand for LDSS/N is estimated at 292 million N&S combinations in 2025 (55 LMICs), with a market value of USD 14.6 million.
This estimate is expected to grow to 433 million by 2030. LDSS/N options should be offered in NSPs to reduce the risk of bloodborne virus transmission (including HIV/HCV).
Conclusions: Market size and demand estimates demonstrate a viable market for LDSS/N in LMICs. This is an important step toward introduction and scaling of LDSS/N in LMICs.
Further research is needed to understand the market enablers, constraints, acceptability, values and preferences and willingness-to-pay to develop compelling business case for LDSS/N in LMICs.

EP0340

Inadequate HIV prevention services in substance use disorder treatment facilities that do not have HIV-specific care for people with HIV

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Background: People with substance use disorder (SUD) are at increased risk of HIV acquisition, yet many SUD treatment programs lack HIV-specific preventive and care services, including facilities not having specialized programs for people with HIV (PWH).
This study aims to assess the availability of HIV-related services in SUD treatment facilities in the United States (US) with no HIV-specific programs.
Methods: The 2023 National Substance Use and Mental Health Services Survey (N-SUMHSS) was used to examine the availability of HIV-related services in US SUD treatment facilities that do not have specific programs/groups for clients with HIV or AIDS (PWH-specialized) compared to other facilities. Descriptive statistics and bivariate comparisons using chi-square tests assessed the differences in services across facility types, with statistical significance set at $p < 0.01$: SUD treatment only (n=5,873) and a mix of mental health and SUD treatment services (n=7,655).
Results: PWH-specialized SUD treatment facilities offer more HIV-related services than non-PWH-specialized facilities, both in SUD-only and mixed settings. Compared to PWH-specialized facilities, HIV testing was less prevalent in non-PWH-specialized SUD-only (31.3% vs. 47.3%) and mixed facilities (29.2% vs. 48.8%). HIV counseling and education were less common in non-specialized settings, with 62.4% (vs. 81.50%) in SUD-only settings and 52.1% (vs. 72.53%) in mixed settings than in PWH-specialized settings. Ancillary HIV interventions and Hepatitis C and HIV PrEP medication were also less prevalent in non-specialized facilities.
Additionally, non-PWH-specialized facilities test less for Hepatitis B, C, and STDs and have fewer programs for the LGBTQ+ population.
Conclusions: Non-PWH-specialized SUD treatment offers fewer HIV-related services than specialized settings, representing missed opportunities to identify at-risk clients and engage them in HIV care. Given that people with SUD are equally at risk of HIV, prevention efforts should be directed to both types of SUD facilities to prevent the HIV epidemic in the US.

EP0341

HIV pre-exposure prophylaxis care cascade and risk factors associated with loss to follow-up among key populations in Indonesia: data from a real-world pilot implementation 2021 – 2023

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Background: The pre-exposure prophylaxis (PrEP) care cascade depicting eligibility, initiation, and continuation, as well as loss to follow-up (LTFU) among individuals taking PrEP has not been systematically evaluated in Indonesia. We examined baseline factors associated with PrEP initiation, the PrEP care cascade, and longitudinal risk factors of LTFU in a large-scale implementation program for key populations vulnerable to HIV in Indonesia.

Methods: Numbers of HIV-negative individuals screened for eligibility, eligible for, initiated, continued to use PrEP from month-one until month-12, and loss to follow-up (LTFU; defined as not returning for PrEP refill for 100 days) were retrieved from the Indonesia PrEP Pilot Program database, a longitudinal oral PrEP implementation rolled out in 21 districts in 10 provinces between Dec-2021 and Dec-2023 among men who have sex with men (MSM), female sex workers (FSW), people who inject drugs (PWID), transgender women (TGW), and serodiscordant partners of people living with HIV (SD-PLHIV). We used logistic regression models to assess factors associated with PrEP initiation and time-varying Cox's models to determine risk factors of LTFU.

Results: Of the 16,469 eligible individuals, 9,124 (55.4%) initiated PrEP up to December 2023 (mean age 29.8 [SD 16.3], 85% men, 75% MSM, 92% from Java-Bali). PrEP initiations were significantly higher among older people, women, FSW and TGW (versus MSM), and those reporting higher-risk sexual behaviours, while significantly lower among PWID and SD-PLHIV, and those living in provinces not covered by the program (all $p<0.001$). PrEP continuations at months one and three were very low among FSW (37% and 34%, respectively). The cumulative LTFU rate at 12 months was 40% (95% confidence interval [CI] 38%-42%). In age-adjusted models, becoming LTFU while on PrEP was predicted by younger age ($p=0.037$), living in Yogyakarta, West Java or East Java (versus Jakarta, $p<0.001$), no STI diagnoses ($p<0.001$), using event-driven PrEP ($p=0.023$), and reporting higher risk behaviours ($p<0.001$).

Conclusions: Our findings revealed gaps in PrEP initiation, continuation, and LTFU among key populations taking PrEP in Indonesia. Targeted interventions are needed to address engagement among those likely to LTFU and populations underserved by the program to improve initiation and continuation.

EP0342

People who use drugs and human immunodeficiency virus (HIV) in Rwanda

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Background: Injecting drug use is a growing contributor to HIV transmission in numerous countries globally. Due to limited epidemiological data on people who use drugs (PWUD). Rwanda has not been able to develop targeted interventions. This study aimed at determining HIV prevalence among PWUD in Rwanda to inform public health interventions.

Methods: A cross-sectional biological and behavioral survey was conducted to assess HIV knowledge among PWUD. Respondent-driven sampling was used to recruit participants aged 18 and above who injected drugs 12 months prior to the interview date; sample size was 1113. Consenting participants were interviewed using a structured questionnaire. With the use Python programming, the analysis focuses on HIV prevalence among male and female PWUD, across different age categories, and provinces in Rwanda.

Results: The overall HIV prevalence among PWUD was 12% (95% CI: 10.8–13.1), with a significantly higher prevalence among female PWUD at 47% (95% CI: 42.6–51.6), compared to 6.2% (95% CI: 5.3–7.1) among male PWUD. The prevalence was also higher among PWUD aged 35 years and above, at 25.2% (95% CI: 22.1–28.4), compared to 10.9% (95% CI: 9.4–12.5) among those aged 25–34 years and 3.6% (95% CI: 2.4–4.8) among those aged 18–25 years.

Geographically, the highest prevalence was observed in the Southern Province at 20.2% (95% CI: 16.4–23.9), followed by the Western Province at 17.4% (95% CI: 14.7–20.0), the Northern Province at 9.5% (95% CI: 6.1–12.8), the City of Kigali at 9% (95% CI: 7.5–10.4), and the Eastern Province at 5% (95% CI: 2.9–7.2).

Conclusions: Our study identified disparities in HIV prevalence among PWUD with a high prevalence among women particularly in the Southern province. We suggest development of strategic targeted interventions that are gender-sensitive, and district-specific.

Other mitigation approaches are but not limited to harm reduction programs such as needle exchange, opioid substitution therapy, and enhanced access to HIV care are necessary. Addressing these disparities are key to improving health outcomes and reducing the HIV burden with PWUD in Rwanda.

EP0343

Evaluating the implementation, services gap and cost of six and twelve months antiretroviral therapy dispensation among HIV-positive migrant clients in Gaza Province, Mozambique (January-April 2024)

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Background: Retention in HIV care and viral load suppression (VLS) remain significant challenges in Mozambique, including in Gaza Province, where 24.4% of people aged 15–49 years are living with HIV. Migrant populations, particularly face barriers to consistent, comprehensive care. To address this, Mozambique introduced multi-month dispensing (MMD), providing antiretroviral therapy for six (6MMD) or twelve (12MMD) months.

This study evaluates the outcomes, costs, and service gap of 6MMD and 12MMD among migrant clients.

Methods: A cross-sectional study was conducted January-April 2024 in 14 health facilities across seven districts of Gaza Province. Migrant clients ≥18 years on 6MMD or 12MMD models were enrolled in the study. Data were collected using structured surveys and data abstraction from medical records and were analyzed using descriptive statistics. The main indicators included healthcare system, client self-reported incurred costs, family planning services, and viral load suppression (VLS). We estimated healthcare system and client self-reported incurred costs and classified incurred costs as catastrophic if they exceeded 10% of the client's income.

Results: Among 201 clients enrolled, 160 (79.6%) were on 6MMD and 41 (20.4%) on 12MMD. Half (51.0%) were 35–50 years and 96.0% reported spending most of the year outside Gaza, with 71.2% returning annually. Among the 104 female clients, 65.4% were neither asked about nor referred for family planning during their last visit, and 60.6% reported not using a family planning method.

Additionally, 62.5% of females were never screened for cervical cancer, including 55.7% on 6MMD and 84.0% on 12MMD. Viral load were collected for 70.6% of clients, among whom 99.3% achieved VLS.

In both models, <15% of clients reported transportation costs and/or income loss exceeding 10% of their income. The annual healthcare system costs per client were US$201 (6MMD) and US$190 (12MMD).

Conclusions: The study identified challenges in the provision of family planning, cervical cancer screening and viral load coverage to migrant clients enrolled in 6MMD or 12MMD. High VLS rates were achieved, but a small subset of clients faced catastrophic financial burdens. Addressing service delivery gaps and integration could be essential to ensuring comprehensive care and improving viral load testing for migrant clients on MMD.

EP0344

Male circumcision, sexual positioning, and HIV status among men who have sex with men in Namibia and Zimbabwe, 2019

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Background: Men who have sex with men (MSM) have 23 times the risk of acquiring HIV compared to the general population. Male circumcision is effective at preventing HIV acquisition among men who have sex with women but its effectiveness among MSM is unknown.

We analyzed data from biobehavioral surveys (BBSs) of MSM in Namibia and Zimbabwe to better understand the interaction between sexual positioning, circumcision, and HIV status.

Methods: We searched for BBSs in sub-Saharan Africa since 2017 with available data about circumcision and sexual positioning. We analyzed data from 511 MSM in Namibia and 1,124 in Zimbabwe who participated in respondent-driven sampling surveys in 2019.

Participants were aged ≥18 years and had had oral or anal sex with another man in the last 6 months (Namibia) or 12 months (Zimbabwe). We analyzed data by circumcision status and sexual positioning with the most recent male anal sex partners in the last 6 months.

We used logistic regression to evaluate the association between HIV test results and circumcision status, sexual positioning, and their interaction, with a random effect for country.

Results: We found that compared to uncircumcised MSM who only engaged in insertive anal sex, circumcised MSM who only engaged in insertive anal sex in the last six months were less likely to have HIV (OR: 0.29, 95% CI: 0.19 to 0.44), controlling for reported number of partners.

Circumcised MSM who engaged in both insertive and receptive anal sex likely had a protective benefit from circumcision (OR: 0.60, 95% CI: 0.35 to 1.04). Circumcised MSM who engaged in only receptive anal sex had no protective benefit from circumcision (OR: 0.67, 95% CI: 0.36 to 1.28).

Conclusions: Our analysis indicates that circumcision may be protective against HIV for MSM, specifically those who engage exclusively in insertive anal sex. It is plausible that MSM who engage in both insertive and receptive anal sex may benefit too.
These results add to findings from a recent circumcision trial that also showed protection for predominantly-insertive MSM. Consideration could be given to reviewing guidance and messaging on voluntary male medical circumcision for MSM in light of these results.

EP0345

Self-concept as a predictor for HIV prevention attitudes among adolescents orphaned by HIV/AIDS in Uganda

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Background: Adolescents orphaned by HIV/AIDS in Uganda face heightened vulnerability to HIV due to psychosocial and economic challenges. Self-concept, an underexplored yet critical factor, influences adolescents' confidence and ability to adopt health-promoting behaviors. A positive self-concept empowers adolescents to embrace protective strategies, such as condom use, HIV testing, and open communication about sexual health.
This study investigates the role of self-concept in predicting HIV prevention attitudes among school-going adolescents orphaned by HIV/AIDS.
Methods: We utilized baseline data from the Suubi-Maka study, a two-arm NIMH-funded cluster-randomized trial for orphaned adolescents (2008-2012). A total of 346 adolescents-caregivers (dyads) from 10 rural public primary schools were randomly assigned to either the control group (n = 167 dyads) receiving usual care for school-going orphaned children (such as lunch and learning materials) or the treatment group (n = 179 dyads) receiving a family economic empowerment intervention (focused on a matched savings account), financial planning and management workshops. Data were collected at baseline, at 12-month and 24-month follow-ups.
Adolescents were aged 12-17 years and were recruited from the Masaka and Rakai political districts of Uganda, two areas severely impacted by HIV/AIDS and poverty. This study conducted a Poisson regression analysis using baseline data to examine the relationship between self-concept and HIV prevention attitudes.
Results: Adolescents' mean age was 13.38 years and females constituted 65% of the sample. The Poisson regression results showed that self-concept (β = 0.005, p<0.01; exp(β) =1.005) is a significant positive predictor of HIV prevention attitudes indicating that participants with more positive self-concept were more likely to exhibit stronger HIV prevention attitudes. Females had significantly lower HIV prevention attitudes, compared to males (β = -0.091, p<0.05; exp(β) =0.913) and participants who identified as Christians (β = -0.047, p<0.05; exp(β) =0.954) also demonstrated lower HIV prevention attitudes.
Conclusions: These findings highlight the importance of self-concept in promoting HIV prevention behaviors among orphaned adolescents in Uganda. Interventions focusing on improving self-concept may be critical in reducing HIV risk among this vulnerable group.
By addressing psychosocial factors, such interventions could enhance the adoption of protective health behaviors, contributing to broader efforts to combat the HIV epidemic in Uganda.

EP0346

Oral PrEP persistence among key populations in a center from Buenos Aires, Argentina: survival analysis of the program's first three years

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Background: PrEP with TDF/FTC was implemented in a non-governmental organization in Buenos Aires in 2021. We aimed to analyze PrEP persistence in key populations and explore its correlates in real life.
Methods: Oral PrEP was offered at no cost to men who have sex with men (MSM), transgender women (TGW), and cisgender female sex workers (cFSW) at increased HIV risk. PrEP persistence was defined as the time to first PrEP discontinuation (TFD): user report or calculated as the date the last pill supply would run out if taken daily. TFD was assessed using survival analysis. Cox proportional hazard models examined associations between TFD and sociodemographic and behavioral factors.
Results: Between September-2021/December-2024, 958 participants initiated PrEP: median age 31 years (IQR:26-36); 670 (69.9%) MSM, 227 (23.7%) TGW, and 61 (6.3%) cFSW. Median follow-up time: 18 months (IQR:9-29). Reasons for discontinuation: loss to follow-up (44%), decreased risk (23%), user decision (23%) and adverse events (11%). PrEP discontinuation probabilities were 6.3% (CI95%:4.7-7.8), 14.1% (11.8-16.3), 23.9% (21.1-26.6), 36.7% (33.3-40.0), and 57.4% (51.7-62.4) by months 1, 6, 12, 24, and 36 respectively. In bivariate analysis older age reduced the risk of PrEP TFD [HR:0.98 (CI95%:0.97-0.99), p=0.004]; cFSW [HR:8.81 (6.24-12.45), p<0.001] and TGW [HR:2.51 (2.02-3.12), p<0.001] faced higher risks compared to MSM, as well as living in the suburbs [HR:1.35 (1.07-1.70), p=0.01], lower education [OR:2.04 (1.61-2.58), p<0.001], sex work [OR:2.34 (1.91-2.86), p<0.001], and cocaine use in last month [OR:2.14 (1.66-2.76), p<0.001]. Multivariable analysis controlling for demographics and behavioral factors showed that age, key population, and cocaine use remained associated with PrEP TFD (Figure 1).
Conclusions: PrEP discontinuation was higher among cFSW, TGW, younger users, and those with recent cocaine use. Targeted interventions addressing structural and behavioral barriers are essential to improve persistence in these populations.

Variable		N	Hazard ratio		p
Age		843		0.98 (0.97, 1.00)	0.01
Key population	MSM	592		Reference	
	FSW	60		7.46 (4.70, 11.85)	<0.001
	TGW	191		2.37 (1.67, 3.36)	<0.001
Residency	Buenos Aires City	648		Reference	
	Suburbs of Buenos Aires City	195		1.21 (0.95, 1.56)	0.13
Education level	High school or higher	707		Reference	
	Lower than high school	136		1.03 (0.77, 1.39)	0.84
Sex work	No	523		Reference	
	Yes	320		1.14 (0.83, 1.58)	0.41
Cocaine use	No	709		Reference	
	Yes	134		1.33 (1.01, 1.75)	0.04

1 2 5 10

Figure 1. Cox regression model.

EP0347

Can it protect my baby and me from HIV?
A mixed-methods evaluation of intention to discuss, accept and use lenacapavir by pregnant women in polygamous relationships in a Nigerian community

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Background: With the success of the PURPOSE 1 and 2 trials, Lenacapavir, a novel long-acting injectable antiretroviral agent, is a promising therapy for the prevention of HIV in people at acquisition risk. The twice-yearly Lenacapavir could protect both the pregnant woman and child in polygamous relationships who are at risk of HIV acquisition. Unaware of possible facilitators and barriers to its use, we evaluated the intention to discuss, accept, and use Lenacapavir by these women.
Methods: We conducted a mixed-methods study from December 2024 to January 2025 where 350 randomly selected cisgender pregnant women responded to structured 22-item validated questionnaires (quantitative phase) while 15 provided insights through in-depth interviews.
The study was conducted across 10 primary healthcare centres in Ankpa, northcentral Nigeria to measure their knowledge, perceptions and intention to discuss, accept, and use. Descriptive and inferential statistical analyses were conducted on the quantitative data while thematic analysis was used for the qualitative data.
Results: Of 294 total respondents, the mean age was 29.7 ± 5.3 years, and 48% (n =141) had attained secondary education. Out of the participants, 68% (n=200) expressed an intention to discuss the use of Lenacapavir, and 59% (n=174) showed willingness to use it.
Prior knowledge of pre-exposure prophylaxis (PrEP) (aOR: 3.6; 95% CI: 2.1–5.9) and supportive partner attitudes (aOR: 2.8; 95% CI: 1.6–4.8) were predictors of having the intention to discuss Lenacapavir. The respondents reported fear of side effects (n = 112, 38.1%) and misconceptions about safety during pregnancy (n = 79, 26.9%) as the key barriers to the use of Lenacapavir. From in-depth interviews conducted, cultural barrier was the major theme. Other synthesized themes that would affect their choices were "protection of my child", "fear of divorce", and "disruption of genealogy".
Conclusions: There was a substantial level of intention to discuss, accept, and use Lenacapavir among cisgender pregnant women in polygamous relationships in the Nigerian community, showing potential acceptability of the drug as a novel HIV prevention strategy among this population. A culturally tailored counseling is essential to address safety concerns and enhance the acceptance of Lenacapavir among pregnant women in polygamous relationships.

EP0348

The use of Post-exposure prophylaxis (PEP) in a national sample of 14-22 year old gay and bisexual boys and young men in the United States

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Background: Although data suggest that Post-exposure prophylaxis (PEP) is associated with an 80% reduction in HIV risk for those exposed,[my1] little is known about adolescents' knowledge and usage of it.
Methods: Data were collected at baseline as part of a randomized controlled trial of a text messaging-based HIV prevention program for 14-20 year old boys and young men who identified as cisgender gay, bisexual, or with another sexual minority identity living across the United States. 463 youth were recruited via social media, consented/assented online or over the telephone, and surveyed online. In addition to age, sex assigned at birth, gender and sexual identity, eligible youth had to have had anal sex in the past 12 months.
Results: Almost three in four (73%, n=338) participants had heard of PEP and one in five (22%, n=104) had talked with a healthcare professional about it. One in 14 (7%, n=33) had ever used PEP; 3% (n=14) have used it 3 or more times. By comparison, 90% (n=417) reported knowing about PrEP (pre-exposure prophylaxis; PrEP).
Significant overlap was observed: 79% (n=26) of PEP users also were PrEP users. PEP use was also associated with condom use: 57% (n=247) of people who never used PEP vs. 70% (n=23) of people who ever used PEP reported non-condom insertive anal sex in the past 12 months (p=0.17); 65% (n=279) of people who never used PEP vs. 76% (n=25) of people who ever used PEP reported non-condom receptive anal sex in the past 12 months (p=0.21).
Among those who reported transactional sex, more (28%, n=9) reported ever using PEP compared to those who reported never using PEP (11%, n=49; p=.005).
Conclusions: Despite the dearth of research about adolescent PEP use, most gay and bisexual adolescent boys and young men in our cohort have heard of it and many have had a conversation with a healthcare provider

about it. Given the strong correlations between behaviors that are associated with HIV risk and PEP use in this sample, covering the gap of knowledge so that the 27% of youth unfamiliar with PEP are aware of it could have important public health impact.

EP0349

HIV pre-exposure prophylaxis continuum and reasons for never using pre-exposure prophylaxis among transfeminine persons in the United States: results from the Transgender Women's Internet Survey and Testing (TWIST)

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Background: The estimated HIV incidence is 5.5 per 1000 person-years in the eastern and southern US among transfeminine persons (TFP), yet information about pre-exposure prophylaxis (PrEP) utilization among TFP remains scarce.
We examined current PrEP use, adherence, persistence and reasons for never using PrEP among a US nationwide sample of TFP.
Methods: Sexually active TFP age 15+ were recruited between April 2023-June 2024 through an online survey. TFP were asked about PrEP use, dose, duration, and reasons for never using PrEP (stratified by age).
Results: Of 1625 TFP not living with HIV (median age:24), 76% (1236/1625) were non-Hispanic White, 11% (185/1625) were Hispanic/Latino, 65% (1058/1625) resided in large central/fringe metro counties, 9% (147/1625) used PrEP in the past 12 months, 4% (61/1625) had ever used PrEP, 87% (1417/1625) had never used PrEP and 6% (96/1625) were currently using PrEP.
Among TFP currently using PrEP, 94% (90/96) used daily oral PrEP, 6% (6/96) used long-acting injectable (LA) PrEP. Among oral PrEP users, 64% (58/90) used 30 pills in the last 30 days and 28% (25/90) persisted taking PrEP more than 24 consecutive months.
Among those who didn't use PrEP daily, 25% (8/32) were taking PrEP when they had sex. Among those who never used PrEP, 67% (947/1417) were aware of PrEP. Among those 15-24 years (n=770), common reasons for never using PrEP were privacy concerns related to health insurance and living arrangements.
Among those 25+ years (n=647), common reasons for never using PrEP were no insurance and concerns about side-effects *(Table)*.

Table. Reasons for never using PrEP among transfeminine persons, stratified by age group, The Transgender Women's Internet Survey and Testing (TWIST) project, United States, 2023-2024 (n=1417)

	Age 15-24 years (n=770) (n, %)*	Age 25 years and over (n=647) (n, %)*
I'm worried about my privacy on my parent's health insurance plan	**112 (91.1)**	11 (8.9)
I'm worried about my privacy with someone that I live with	**69 (76.7)**	21 (23.3)
Having no reliable transportation	**52 (74.3)**	18 (25.7)
I'm worried that people will think that I have HIV	**39 (69.6)**	17 (30.4)
I don't know which doctor to see about starting PrEP	**142 (68.6)**	65 (31.4)
I'm worried people will think I am very sexually active	**46 (67.6)**	22 (32.4)
Not knowing enough about PrEP to make a decision	**222 (67.1)**	109 (32.9)
Worried that doctor will treat me poorly if I ask them about starting PrEP	**65 (67.0)**	32 (33.0)
Not sexually active	**160 (65.3)**	85 (34.7)
Not sure I can remember to take the PrEP as prescribed	**71 (64.5)**	39 (35.5)
Too expensive	**81 (58.3)**	58 (41.7)
Prefer to use other methods to protect myself from HIV	**113 (55.9)**	89 (44.1)
In a monogamous relationship with an HIV-negative partner	**360 (49.0)**	375 (51.0)
Concerns about side-effects of PrEP	**73 (47.1)**	82 (52.9)
Having no insurance	**37 (46.8)**	42 (53.2)
Another reason	**59 (44.0)**	75 (56.0)

*Participants were allowed to choose more than one option. Bold text indicates the top three reasons for never using PrEP

Conclusions: PrEP use among TFP remains low even though PrEP has been available for more than a decade in the US. Strategies to increase PrEP use among TFP could be tailored to address needs of specific age groups. LA PrEP may address some privacy concerns, particularly among young TFP.

EP0350

Knowledge and attitude toward HIV pre-exposure prophylaxis among reproductive age women 15-49 years in Ghana: a multilevel model analysis of the 2022 Demographic and Health Survey

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Background: HIV remains a significant public health concern in sub-Saharan Africa, with women bearing a disproportionate burden of the disease. Pre-exposure prophylaxis (PrEP) has been proven effective in reducing HIV transmission, yet, knowledge, attitudes, and access influence its adoption.
The study examines the predictors of knowledge and attitudes toward PrEP among reproductive-age women 15-49 years in Ghana.
Methods: We analyzed a cross-sectional dataset from the 2022 Ghana Demographic and Health Survey (GDHS), with a weighted sample of 13,980 women. Data analysis was conducted using Stata 18, employing a multilevel logistic regression model to examine PrEP knowledge and attitudes predictors.
Results were reported as adjusted odds ratios (AOR) with 95% confidence intervals (CI). Statistical significance was set at $p < 0.05$.

Results: Overall, 12.13% (95% CI: 11.1–13.3) of women had positive knowledge and attitudes toward HIV PrEP. The Ashanti region had the highest proportion 20.25% (95% CI: 18.67–21.93), and the lowest in the Northern region 1.68% (95% CI: 1.46–1.93). Women with two or more sexual partners (AOR = 0.51, 95% CI: 0.28–0.96) were less likely to have positive PrEP knowledge and attitudes than those with one partner.

Women aged 25–29 (AOR = 1.75, 95% CI: 1.28–2.40), 30–34 (AOR = 1.61, 95% CI: 1.14–2.27), 35–39 (AOR = 1.69, 95% CI: 1.22–2.32), 40–44 years (AOR = 1.48, 95% CI: 1.03–2.12), having higher education (AOR = 3.27, 95% CI: 2.35–4.55), listening to radio (AOR = 1.20, 95% CI: 1.01–1.43), living in Ahafo (AOR = 5.02, 95% CI: 2.54–9.91), Oti (AOR = 5.64, 95% CI: 3.06–10.40), and Upper East (AOR = 4.17, 95% CI: 2.05–8.50) regions increased the odds of PrEP knowledge and attitude among women in Ghana.

Conclusions: Approximately 1 in 10 women aged 15–49 in Ghana have positive HIV PrEP knowledge and attitudes, highlighting a gap in knowledge and attitudes toward PrEP among women. Policymakers should focus on targeted education and equitable access to HIV prevention services to strengthen efforts in reducing HIV transmission.

EP0351

Group by time analysis of decision making and working together for prevention and pleasure: outcomes from a digital HIV serostatus neutral intervention trial with adult, cisgender male couples

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Background: Few HIV serostatus neutral interventions exist in the US that are efficacious, couples-based, and delivered digitally for adult, sexual minority male couples. LuvHub, a couples-based, digital HIV serostatus neutral intervention (DHI), seeks to address this problem and is currently being evaluated via a nation-wide, digital randomized controlled trial (RCT).

LuvHub teaches couples skills to help manage and align their HIV/STI vulnerabilities with their sexual pleasure needs via a sexual agreement.

Methods: We enrolled 389 eligible and consented adult, cisgender sexual minority male couples across the US to participate in a 16-month, digital RCT to assess the efficacy of LuvHub over time. Upon completion of the baseline assessment, couples were randomized to one of two trial conditions: immediate intervention condition to use LuvHub for 16 months or 8-month delayed control condition in which access and use of LuvHub began after the 8-month assessment.

Assessments occurred every 4 months post baseline. Present analyses examined differences between couple trial conditions (immediate vs. delayed) from baseline to month 4 on individual perceptions of how well he and his partner make decisions and work together to have a detailed sexual agreement and use HIV prevention and care strategies in their relationship. Both items were captured using a Likert-type response range of 0=not at all to 4=a great deal. Linear mixed models were conducted to test for group, time, and group by time interaction effects.

Results: A significant group by time interaction effect was detected for making decisions (p=.03). Couples in the immediate intervention condition, compared to those in the delayed condition, had greater improvements in making decisions together over time (b=0.24, SE=0.06, *p*<.001 vs. b=0.04, SE=0.06, p=0.47).

A significant group by time intervention effect was detected for working together (p=.02). Couples in the immediate intervention condition, compared to those in the delayed condition, had greater improvements in working together over time (b=0.29, SE=0.06, *p*<.001 vs. b=0.09, SE=0.06, p=0.16).

Conclusions: Findings show promise of LuvHub regarding couples' decision-making and working together about agreements and using HIV/STI prevention and care strategies in their relationship. Analyses of remaining assessment data, once available, are needed to reveal longitudinal trends in these outcomes.

EP0352

Safety and immunogenicity of an HIV vaccine with chimpanzee adenovirus vector

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Background: Adenovirus (Ad) vectors offer tolerability, thermal stability and large genetic cargo capacity. However, trials using human Ad5 as HIV vaccine vectors showed increased likelihood of acquiring HIV and impaired immunogenicity in Ad5-seropositive men. Chimpanzee adenovirus (AdC6 and AdC7) vectors could overcome these issues.

We evaluated safety and immunogenicity of AdC6 and AdC7 vectors expressing HIV gp140.

Methods: HVTN 139, a phase 1 double-blinded placebo-controlled trial at six South African sites, enrolled adults without HIV. Participants were randomized into six groups across low or high doses (Table).
Data on reactogenicity, adverse events (AEs), and immune responses were collected. To measure Ad neutralizing antibodies (nAbs), viral particles of GFP-expressing AdC6/AdC7 were mixed with diluted sera, incubated, fixed, stained, and quantified under epifluorescence microscopy. NAbs against HIV-1 were measured using the TZM-bl neutralizing assay. Vaccine-specific T-cell responses were assessed using intracellular cytokine staining.

	Study groups	N	AdC dose (vp)	M0	M3	M6
Part A: Low Dose (LD)	Group 1 (G1)	5	1x 10^{10}	AdC6-HIVgp140	-	-
	Group 2 (G2)	5	1x 10^{10}	AdC7-HIVgp140	-	-
	Group 3 (G3)	2	0	Placebo	-	-
Part B: High Dose (HD)	Group 4 (G4)	10	5 x 10^{10}	AdC6-HIVgp140	AdC7-HIVgp140	400 mcg CH505TF gp120/GLA-SE
	Group 5 (G5)	10	5 x 10^{10}	AdC7-HIVgp140	AdC6-HIVgp140	400 mcg CH505TF gp120/GLA-SE
	Group 6 (G6)	2	0	Placebo	Placebo	Placebo

Table: Schema.

Results: Thirty-four participants (median age 26, 65% male) were enrolled. Low-dose groups (n=12) reported mild solicited AEs and mild to moderate unsolicited AEs, unrelated. High-dose groups (n=22) reported mild to moderate solicited and unsolicited AEs, one unrelated fatal stabbing and two HIV acquisitions in product-receiving groups. Ad nAb response rates at months 0, 1, and 4, were 50%, 80% and 90% respectively for AdC6, and 27%, 65% and 75% for AdC7.
Most participants developed tier 1 HIV nAb responses after the third vaccination with no significant differences in the response rate between high-dose regimens (G4 and G5); nAb responses to the vaccine-matched HIV viruses were rare.
Higher Env-specific CD4+ T-cell response rates were seen with AdC7 compared to AdC6 (88% versus 33%, p=0.026 after one high dose), but CD8+ T-cell response rates were similar (63% and 56%).
Conclusions: Chimpanzee Ad vectors were well tolerated but two people acquired HIV in high-dose groups. This vaccine induced robust cellular but limited tier 2 nAb responses against HIV.

EP0353

A scoping review of the impact of vaccine characteristics on the acceptability of HIV vaccines: current global trajectory of evidence

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Background: Developing safe and effective preventive HIV vaccines is the best long-term solution for controlling the HIV/AIDS pandemic. Nonetheless, characteristics of future HIV vaccines may influence their acceptability.
The aim of this scoping review was to determine the impact of vaccine characteristics on the acceptability of future HIV vaccines.
Methods: Using the Arksey & O'Malley's (2005) guidelines, we searched Scopus, Web of Science, PubMed, and Google Scholar databases for peer-reviewed articles published from Jan 1996 – Dec 2024 using the terms *HIV, HIV Vaccines, Vaccine Characteristics, Acceptability, and Impact*. Title/abstract and full-text screening were independently conducted by 2 authors. Data from the included articles were charted and summarized.
Results: Of the 1,228 studies screened, only 11 met the inclusion criteria. Most were quantitative (9/11, 81.8%), conducted in the USA (9/11, 81.8%), and utilized conjoint analysis (7/11, 63.6%) with impact scores rated on a 0–100 scale. Few studies included key populations like men who have sex with men (3/11, 27.2%) and adolescents (4/11, 36.4%). Various vaccine characteristics were identified: efficacy had the highest influence on HIV vaccine acceptability in 8 studies (72.7%), with impact scores ranging from 15.9 to 51.4%.
Side effects/safety ranked second in 5 studies (45.4%), with scores between 8.56 and 13.9%. Cost was the third most influential factor, reported in 5 studies (45.4%) with impact scores from 7.57 to 19.4%.
Protection duration ranked fourth in 4 studies (36.4%), with scores from 5.2 to 8.3%. The type of vaccine (e.g., killed, live attenuated, synthetic) was the second most impactful in 2 studies (18.2%), with scores ranging from 22.9 to 24.3%, while mode of delivery had no impact in 2 studies (18.2%). Vaccines with the highest acceptability shared key features: high efficacy (80–99%), long protection duration (10 years), a single dose, low cost ($0–$50), and minimal or no side effects.
Conclusions: Efficacy was the most impactful characteristic influencing HIV vaccine acceptability, followed by side effects/safety and cost. Educational programs emphasizing the benefits of partially efficacious HIV vaccines, along with transparent communication about side effects and cost subsidies, may boost HIV vaccine uptake.

EP0354

Factors associated with oral HIV pre-exposure prophylaxis (PrEP) continuation in the Indonesian pilot program, 2022-2023

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Background: Despite high HIV incidence among key populations, Indonesia did not roll out PrEP until a pilot program was introduced in 2022 to 2023. Using pilot program data, this study aimed to determine PrEP continuation over one year and identify factors associated with discontinuation.

Methods: We analyzed the pilot program data from 1 February 2022 to 31 December 2023. Participants with complete demographic data (visit date, age, sex, key populations [KPs]) were included.

Time-varying independent variables included PrEP regimen (daily/event-driven), province, and facility type (government-run public health centres [PHCs], hospitals, and private KP-friendly clinics) where visits were conducted.

Discontinuation events for PrEP users were determined at the last recorded visit for voluntary discontinuations or 90 days after the last visit for those lost-to-follow-up.

Otherwise, observations were censored at seroconversion, one year after initiation, or on 31 December 2023. A Kaplan-Meier estimator estimated the PrEP continuation rate. Predictors of discontinuation were identified using bivariable and multivariable Cox regression.

Results: The program recorded 19,014 visits for 9,488 individuals during the observation period. At baseline, the median age was 27 (IQR 23-32) years, 85.5% were male, 75.2% were men who have sex with men (MSM), 66.4% initiated PrEP on a daily regimen, 39.7% lived in Jakarta, and 85.7% initiated PrEP at PHCs. 12.7% of participants had a break and recontinued PrEP.

The continuation rates at 3, 6, 9, and 12 months were 69.8% (95%CI=68.9-70.7%), 57.7% (95%CI=56.6-58.9%), 44.8% (95%CI=43.4-46.1%), and 5.7% (95%CI=4.4-7.2%). Female sex worker (aHR=1.55, 95%CI=1.28-1.92) compared to MSM; living in West Java (aHR=1.32, 95%CI=1.18-1.48) and South Sulawesi provinces (aHR=1.32, 95%CI=1.11-1.55) compared to Jakarta; and last visit at a PHC (aHR=1.14, 95%CI=1.01-1.28) or hospital (aHR=1.20, 95%CI=1.01-1.43) compared to private KP-friendly clinics were associated with PrEP discontinuation.

Conclusions: A very high proportion of participants in Indonesia's first pilot PrEP program discontinued PrEP, with higher discontinuation observed in specific geographic regions, among sex workers, and among those attending PHCs and hospitals. Lower discontinuation at private KP-friendly services suggests that PrEP at these sites or other similar KP-friendly settings should be scaled up. Barriers to PrEP continuation by key populations must be urgently addressed.

EP0355

Preferences for future HIV vaccines among key populations in India: findings from the DigiTaPP Choice Experiment Study

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Background: The DigiTaPP study aimed to assess preferences for future HIV vaccines among key populations in India, specifically transgender women (TGW), men who have sex with men (MSM), and female sex workers (FSWs). This research is critical given the high HIV burden among these groups and high prevalence of condomless anal sex, which significantly increases transmission risk.

Understanding vaccine preferences is crucial for developing acceptable and effective HIV prevention strategies, particularly as new tools like vaccines emerge.

Methods: A quantitative choice experiment was conducted in Chennai, Mumbai, and New Delhi between September and December 2024. The study included 150 TGW, 36 MSM, and 36 FSWs. Participants were presented with various vaccine scenarios, varying in immunization schedule, degree and duration of protection, delivery modality, and potential side effects. Preferences were analyzed using a threshold technique for trade-offs.

Results: Among TGW (n=150), over half were young (18-27 years), 78% single and 14% lived with male partners. MSM (n=36) participants were predominantly young (69% aged 18-27 years), and 86% never married. FSWs (n=36) were relatively older (two-thirds aged 36-48 years) and 50% were currently married.

Digital platform usage was high among participants, with over 80% using smartphones daily and a significant proportion using dating apps to seek sexual partners.

A majority of participants across all groups accepted high vaccination burdens (6-8 shots over 2.5 years) even for lower degrees of protection. TGW (90%), MSM (91.7%), and FSWs (77.8%) showed high acceptance of intensive schedules. Preferences for vaccine access points varied, with 65.3% of TGW, 77.7% of MSM, and 69.4% of FSWs preferring availability for priority/key populations only.

Side effect tolerance significantly influenced preferences, with those accepting severe side effects more likely to prefer combined interventions (vaccine plus other prevention methods).

Conclusions: The study demonstrates high acceptance of future HIV vaccines among key populations in India, even with intensive schedules. Preferences varied based on factors like side effects and delivery modality. These findings suggest that tailored approaches considering diverse preferences are crucial for maximizing vaccine uptake and effectiveness. Future HIV prevention programs should consider combining vaccines with other methods and leveraging digital platforms for outreach

EP0356

Exploring barriers to inclusive care: knowledge gaps and training needs of Sri Lankan government doctors in LGBTIQ health – a cross-sectional study

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Background: Despite increasing recognition of the health disparities faced by LGBTIQ individuals, medical curricula and in-service training often inadequately address LGBTIQ health needs. This gap contributes to healthcare providers' limited knowledge, skills, and cultural competence in delivering appropriate care to LGBTIQ populations. The lack of targeted education on topics such as gender identity, sexual orientation, and related health issues results in insufficient support for these patients, potentially exacerbating health inequalities.
Methods: A descriptive cross-sectional study was carried out using a randomly selected sample of medical officers working in the Ministry of Health - Sri Lanka regarding their understanding about homophobia and the challenges they face in providing care to LGBTQIA+ patients. The tool consisted of seven close ended questions and two open ended questions.
Results: Of the 212 respondents (50.1% response rate), 74.1% were comfortable to treat LGBTIQ patients, while 10.9% found it uncomfortable. One doctor has expressed it as "very difficult" to treat LGBTIQ individuals. Though no respondent refused to treat LGBTIQ patients, 3.3% preferred not to be involved. On the other hand, a majority (64.3%) were willing to treat LGBTIQ patients. However, over a quarter (29.1%) were unsure or lacked confidence in treating them, with only 41.7% reporting confidence in treating.
Regarding further knowledge, psychological issues and safe sex education were the most requested topics, with over 50% of respondents expressing interest in these areas. The least interest was medical knowledge related to gender reconstruction.
Regarding perceived barriers, 68.6% either did not know of any barriers or provided no response. Among those who identified barriers (18.5%), stigma and discrimination were most commonly cited, with one respondent mentioning sexual advances from patients as a barrier.
Conclusions: Similar to many Western medical curricula, Sri Lanka should incorporate LGBTIQ-related health education into its medical training, alongside strong advocacy efforts to reduce stigma and discrimination. The presence of homosexual panic and homophobia among medical professionals likely reflects both a lack of understanding and persistent discriminatory attitudes toward the LGBTIQ community.

EP0357

Introducing long-acting cabotegravir in Zambia: lessons learned from early implementation

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Background: Zambia achieved significant progress scaling oral pre-exposure prophylaxis (PrEP), with 184,256 people receiving PrEP in 2023. However, 23,000 new HIV acquisitions in 2023 highlight persistent unmet need. Oral PrEP alone will not meet the needs of populations at risk of HIV acquisition. In 2024, Zambia became the first low- and middle-income country to introduce long-acting cabotegravir (CAB-LA), a significant global milestone in HIV prevention programming.
Description: CAB-LA was introduced through a Ministry-led, phased approach following an announcement by PEPFAR in March 2023 that Zambia would receive PEPFAR-donated CAB-LA. To prepare, the Ministry-led PrEP Task Force updated PrEP guidelines and developed a CAB-LA implementation plan, M&E tools, and communication materials. These processes were informed by a Value Chain Situation Analysis conducted in 2022, and leveraged lessons learned from oral PrEP introduction.
9 sites were selected across 4 provinces for early rollout based on epidemic burden and to build experience across diverse implementation settings. Vial allocations were determined based on historic PrEP uptake and use. Provider training was rolled out in 2023 and CAB-LA was launched in February 2024.
Lessons learned: Strong Ministry leadership and coordination across technical partners has driven successful early introduction in Zambia. An agile, Ministry-led PrEP Task Force has been essential to support health systems changes required for introduction. By the end of 2024, 2,436 clients were initiated on CAB-LA across 26 sites and 8 provinces with 8.5% reported to have discontinued (Figure 1).

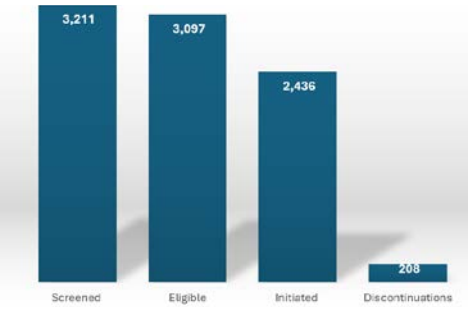


Figure 1. CAB-LA Cascade, 2024.

In November 2024, eligibility criteria were revised to allow pregnant and breastfeeding women to initiate, based on new clinical data from HPTN 084.

Conclusions/Next steps: Based on early success with CAB-LA, Zambia will continue to scale injectable PrEP to address unmet need and curb HIV transmission. This early success positions Zambia to lead the way in choice-drive prevention programming and will inform the introduction of next-generation products, like lenacapavir.

EP0358

Factors associated with PrEP acceptance among people seeking care in resource-limited and security-challenged settings: the case of Borno State

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Background: Nigeria has the largest HIV burden in Sub-Saharan Africa, with over 1.9 million people currently living with HIV. Despite the proven effectiveness of pre-exposure prophylaxis (PrEP) in preventing HIV transmission, particularly in high-risk populations, the uptake of PrEP remains low in many regions. This is especially true in resource-limited and conflict-affected settings, where structural and socio-demographic factors, including widespread stigma and discrimination, can influence acceptance of PrEP.

This study explores factors influencing PrEP acceptance among individuals assessing health care services at health facilities providing comprehensive Antiretroviral Therapy (ART) in Borno State, Nigeria. Learnings will guide strategies for improving uptake in similar contexts.

Methods: From November 2023 to April 2024, a cross-sectional, clinic-based survey was conducted among individuals aged 18 years and above accessing healthcare services at nine PEPFAR-supported facilities in Borno State. They were offered HIV testing services, and individuals identified as HIV-negative and had high-risk factors based on risk screening were offered PrEP, along with counseling on usage and adherence.

Socio-demographic characteristics, HIV test results, and PrEP acceptance were collected and analyzed to identify factors influencing acceptance.

Results: Males constitute 57% (n=1805) of the study participants. The median age was 30 (male 30, female 29). Of the participants, 61.5% (n=1948) accepted PrEP services. PrEP acceptance was highest among individuals with primary education (AOR: 5.67, 95% CI: 3.87–8.37), followed by those with secondary education (AOR: 4.39, 95% CI: 3.56–5.43) and tertiary education (AOR: 3.09, 95% CI: 2.59–3.71). Being unmarried (AOR: 2.11, 95% CI: 1.82–2.44) and employed (AOR: 1.65, 95% CI: 1.38–1.96) were also associated with a higher likelihood of PrEP acceptance compared to being married and unemployed, respectively. Conversely, females were significantly less likely to accept PrEP compared to males (AOR: 0.26, 95% CI: 0.22–0.30).

Conclusions: The likelihood of PrEP acceptance was higher among individuals with primary education, unmarried status, and employment but lower among females, highlighting key sociodemographic disparities. Addressing these barriers through targeted, inclusive interventions is crucial to improving PrEP acceptance and strengthening HIV prevention efforts.

EP0359

Preferences and concerns for using long-acting injectable HIV pre-exposure prophylaxis (PrEP) among female barmaids in Dar es Salaam, Tanzania

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Background: Oral HIV pre-exposure prophylaxis (PrEP) has been introduced globally and, if taken accordingly, can lower the risk of HIV acquisition. However, women in sub-Saharan Africa frequently experience challenges in its uptake and adherence. Long-acting injectable PrEP has the potential to overcome pills challenges and improve HIV prevention. Female bar workers (FBWs) frequently engage in transactional sex and are particularly vulnerable to HIV.

In this study we explored FBWs perspectives on preferences and concerns about long-acting injectable HIV PrEP use.

Methods: This qualitative study was embedded in a randomized trial to asses workplace-based PrEP provision for FBWs in Dar es Salaam. We conducted in-depth-interviews with 17 purposefully selected FBWs, oral PrEP-users and non-users, in 2024. Interviews were conducted in Kiswahili using semi-structured questions. We analysed the data using an inductive approach.

Results: The majority of PrEP non-users expressed no preference for any form of PrEP while oral PrEP-users expressed high interest in long-acting PrEP. Most participants favoured long-acting over oral PrEP, being concerned about the pill size and the daily regime. Participants highlighted the advantages of long-acting PrEP including more discretion, less side effects, prolonged prevention and no daily pill fatigue

Most participants indicated preference for a three-month PrEP injection while some preferred PrEP injection on a monthly basis to better monitor and control potential side effects.
The participants preferred health facilities as service providers because of the timely service, their resources to manage complications and more privacy, reducing stigma. Some participants mentioned community spots as a preferred provider model due to its convenience, no contempt related to facility visit and friendly services given by community providers.
Many participants had no concerns about the use of long-acting PrEP. However, some feared it being in a trial phase, causing cancer and side effects, including fatigue, nausea, dizziness, increased hunger, and risky sexual behaviour.
Conclusions: The majority of the participants showed strong interest in long-acting injectable PrEP, highlighting its convenience and discretion. Our findings suggest that it can overcome challenges in PrEP pills and adherence while addressing the need for a more tailored approach for FBWs and other vulnerable groups in Tanzania.

EP0360

How willing are sexual and gender minorities to use pre-exposure prophylaxis modalities? An online survey from Brazil, Mexico and Peru

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Background: Pre-exposure prophylaxis (PrEP) urgently needs to be scaled up among sexual and gender minorities (SGM) in Latin America. New PrEP modalities have been developed and may address daily oral PrEP adherence challenges. We assessed factors associated with willingness to use daily oral, event-driven oral (ED-PrEP) and bimonthly injectable PrEP among SGM from Brazil, Mexico and Peru.
Methods: Cross-sectional survey was conducted online from August to November 2024 among SGM aged 18+ years, excluding people living with HIV (PLWH). Willingness to use PrEP modalities was evaluated using a 4-point Likert scale, and we considered "Very likely" as "Willing". Multivariate Poisson regression models were used to estimate prevalence ratios for willingness to use each PrEP modality, adjusting for age, country, race, income, sex with PLWH, depression (PHQ-9), homonegativity, perceived HIV risk (PHR), and HIV knowledge (HIV-KN). We assessed these four latter variables with validated scales accordingly.
Results: We had 9257 participants (Brazil: 65.5%; Mexico: 24.6%; Peru: 9.9%) with a median age of 38 years (IQR:31–46), and 20.2% reported earning minimum wage or less. Most respondents were willing to use bimonthly injectable PrEP (68.7%), then daily oral PrEP (58.5%), and ED-PrEP (45.3%). Across the three PrEP modalities, willingness increased as PHR rose and decreased with higher homonegativity. Willingness to use ED-PrEP and bimonthly injectable PrEP was higher with increased HIV-KN.
Compared to Brazilians, Mexicans and Peruvians were more willing to use daily oral PrEP, but less willing to use ED-PrEP and bimonthly injectable. Participants who reported sex with PLWH were less willing to use ED-PrEP, but more willing to use the bimonthly injectable (see table below).

Characteristics	Daily oral aPR* [95% CI]	Event-driven oral aPR* [95% CI]	Bimonthly injectable aPR* [95% CI]
Country (Ref: Brazil)			
Mexico	1.15 [1.05 - 1.26]	0.86 [0.78 - 0.94]	0.74 [0.69 - 0.80]
Peru	1.16 [1.02 - 1.31]	0.72 [0.62 - 0.83]	0.84 [0.75 - 0.93]
Race (Ref: White)			
Mixed	1.10 [1.02 - 1.20]	1.01 [0.93 - 1.09]	1.05 [0.99 - 1.12]
Black/Asian/Indigenous/Other	1.08 [0.96 - 1.22]	1.01 [0.90 - 1.12]	1.00 [0.91 - 1.09]
Monthly income (Ref: ≤ minimum wage)			
> 1 to 2 minimum wage	1.01 [0.91 - 1.12]	0.94 [0.84 - 1.04]	1.03 [0.94 - 1.13]
> 2 to 6 minimum wage	0.94 [0.85 -1.03]	0.91 [0.83 - 1.00]	1.02 [0.94 - 1.11]
> 6 minimum wage	0.88 [0.78 - 0.99]	0.88 [0.79 - 0.99]	1.03 [0.94 - 1.13]
Depression (Ref: No)			
Yes	1.14 [1.06 - 1.23]	1.10 [1.03 - 1.18]	1.05 [0.99 - 1.11]
Homonegativity	0.99 [0.98 - 0.99]	0.99 [0.99 - 1.00]	0.99 [0.99 - 1.00]
Perceived HIV risk	1.03 [1.02 - 1.04]	1.03 [1.02 - 1.04]	1.01 [1.01 - 1.02]
HIV knowledge	1.00 [0.98 - 1.02]	1.04 [1.01 - 1.06]	1.06 [1.03 - 1.08]
Sex with PLWH (Ref: No)			
Yes	1.02 [0.91 - 1.15]	0.83 [0.75 - 0.92]	1.09 [1.01 - 1.17]
I don't know	1.00 [0.92 - 1.09]	0.91 [0.84 - 0.99]	1.06 [0.99 - 1.13]

**Adjusted also for age. PLWH: People living with HIV, bold font indicates a p-value of less than 0.05*

Conclusions: Bimonthly injectable PrEP was the preferred modality overall and in Brazil, while daily oral PrEP was preferred in Mexico and Peru, possibly reflecting diverse PrEP availability. Willingness to use ED-PrEP and bimonthly injectable PrEP increased with HIV knowledge.

EP0361

Condom use among young people aged 15-24 years receiving HIV pre-exposure prophylaxis at MARPI Clinic Mulago, Kampala district, Uganda

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Background: The World Health Organization recommends PrEP to be used with other existing HIV prevention measures, such as condoms. Consistent condom use prevents one from acquiring other sexually transmitted infections and unwanted pregnancies. Although there is data on condom use among PrEP users in the key populations, there is limited data among young people, especially in resource-limited settings.
This study therefore seeks to determine the prevalence, factors associated with condom use at the last sexual encounter among young people (15-24 years) on PrEP at the Most At Risk Populations Initiative (MARPI) clinic.

Methods: This was a cross-sectional study carried out in Uganda among young people receiving pre-exposure prophylaxis at Most At Risk Population Initiative Uganda. The participants were systematically sampled from the clinic registers. Quantitative data on condom use and associated factors was collected using a questionnaire and analyzed using Stata version 15. Modified Poisson regression with robust errors was used to assess associated factors at bivariable and multivariable stages.
Results: In this study 356 young people on PrEP were recruited; 58.7%of them were males, median age was 22 (3) years, 41.9% were married/cohabiting and 40.4% had been on PrEP for a duration of (6-12months). Of the 356 young people enrolled, 46.1% (95% CI: 0.41-0.51) had used condoms at the last sexual encounter.
Nearly half (45.8%) of young people were not using condoms because they felt that they were not at risk of acquiring HIV. In the adjusted analysis: the prevalence of condom use at the last sexual encounter among young people was found to be associated with the level of education, confidence in using condoms and the type of sexual partner at the last sexual encounter; (APR: 1.24, 95% C.I: 1.03-1.50, p=0.027), (APR: 4.56, 95% C.I: 2.80-7.43, p= <0.001) and (APR: 2.31,95% C.I: 1.69-3.17, p= <0.001) respectively.
Conclusions: The study findings highlight low (46.1%) condom use among this population because more than half of the participants relied solely on PrEP for HIV prevention. Therefore, this puts young people at a high risk of acquiring other sexually transmitted diseases and unwanted pregnancies and hence the need for immediate interventions.

EP0362

Designing a safety monitoring system for BRILLIANT consortium-led HIV vaccine trials in Africa

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Background: The BRILLIANT (Bringing Innovation to clinical and Laboratory research to end HIV in Africa through New vaccine Technology) Consortium aims to lead HIV vaccine development in Africa by integrating novel immunogen designs and innovative safety monitoring systems (SMS).
Description: The SMS will span across eight African countries and coordinate input from multidisciplinary partners, with the first pilot trial being BRILLIANT-001. The design was developed over a period of six months, with the majority of this time dedicated to mitigating safety risks associated with novel immunogens. Enhanced components include additional tailored fields within Clinical Data Acquisition Standards Harmonization (CDASH)-compliant case report forms (CRFs), near real-time detection of adverse events (AEs) of concern through database-triggered email alerts, clinician access to a 24/7 safety hotline, extra safety oversight provided by local expertise within both internal and independent safety monitoring committees, and continuous safety refresher training to ensure that quality management standards are upheld.
Lessons learned: Designing a robust SMS required contextual adaptation specific to Africa. The development the clinical database incorporated rigorous safety reviews of protocol-specific aspects with stakeholder involvement. A safety database was extensively tailored for the BRILLIANT Consortium Discovery Medicine trials to include the requirements of multiple regulatory authorities in serious AE reporting. An adaptive integrative system will support safety reporting across both the clinical and safety databases. Multiple reporting mechanisms were established, including paper, web, and app-based CRFs, to account for power disruptions. Early-career investigators are incorporated and mentored within safety monitoring committees to enhance safety oversight expertise within the BRILLIANT Consortium. Increased training efforts were required for site clinicians to bridge the gap between traditional Phase 1 safety reporting and the specialized requirements of Discovery Medicine trials.
Conclusions/Next steps: SMSs are essential for global HIV vaccine development. As CRSs begin activation, the BRILLIANT Consortium will apply lessons learned to improve drug safety, strengthen clinical trials, and guide regulatory decisions in Africa. Plans include creating an integrative safety database dashboard to monitor safety report submissions between sponsors, country-specific regulatory authorities, and immunogen developers.

EP0363

Knowledge about and attitudes towards PrEP and PEP use among transgender girls and non-binary youth in the United States

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Background: Although transgender girls and non-binary (TNB) youth assigned male at birth face HIV risks similar, if not greater than, cisgender sexual minority boys, there is a significant dearth of research about their knowledge and attitudes towards pre- and post-exposure prophylaxis (PrEP and PEP, respectively).
Methods: Seven online focus groups with 67 youth were conducted between December 2021 and February 2022. Youth were recruited across the US on social media and assented over the telephone. Groups were stratified by

sexual experience (ever/never). Eligible youth were 14-18 years of age, assigned male at birth and identified as transgender or non-binary.

Results: Almost none of the youth, both sexually experienced and inexperienced, had heard of PrEP, and even fewer had heard of PEP. Almost all said they would be open to taking it however, especially if they were able to learn more about the drugs' side effects and drug interactions, risks, and efficacy. They also wanted to know about delivery options (e.g., mail order).

There was mixed feedback about how comfortable youth would feel about talking to a healthcare provider. For example, one girl said: "I would not feel very comfortable with talking to my primary health provider about it because I still go to a pediatrician. However, I would be comfortable with talking to someone who specializes in that area of medicine."

The biggest access barriers articulated were cost and parents. As one non-binary youth shared: "No longer interested [if my parents found out]. The health is much more in danger by my parents than by HIV to be honest. We don't have health insurance though soooo.."

Another non-binary youth similarly said: "If my parents could see it, I would not be able to get or use it [PrEP/PEP]. They are a largely prohibiting factor, as they are transphobic, conservative, and incredibly Christian."

Conclusions: To impact HIV acquisition rates among TNB youth in the US, increasing knowledge about PrEP and PEP is a public health imperative. Equally important is addressing key access barriers, particularly the drugs' cost, and alternatively, disclosure to one's parents about the prescription when one's health insurance coverage is used.

EP0364

Awareness and factors associated with acceptability of HIV pre-exposure prophylaxis among female university students aged 18 to 24 years in Rwanda

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Background: HIV epidemic remains a global health threat especially among young people. In 2019, Young women represented around twenty-five percent of all world's new infections. Although pre-exposure prophylaxis (PrEP) can help protect people at high risk of HIV, especially young women, from getting the epidemic, there is still limited literature on PrEP awareness and acceptability level especially among young women (YW) aged 15 to 24 years.

This study was conducted to identify the prevalence and factors associated with PrEP acceptability among YW in Rwanda.

Methods: This cross-sectional study collected quantitative data from young women students at selected universities across Rwanda between August 8 and November 8, 2024. A structured questionnaire captured socio-demographic details and information on PrEP awareness and acceptability. Data analysis was conducted using STATA 17, with descriptive methods and logistic regression to identify factors influencing PrEP acceptability. Statistical significance was set at $p<0.05$.

Results: We interviewed 455 YW university students aged 18 to 24 years with mean age 21 years, 98.9% single, 63.3% were from rural areas, and 45.1% in Year 1 of their university education. Out of the 455 YW, 87.5% had ever heard about PrEP and 87.9% willing to start PrEP once identified eligible for it.

Although, majority of the students would accept to use PrEP once identified eligible for PrEP, significantly higher likelihoods of acceptability were observed among students who had never heard about PrEP before [aOR: 13.8 with 95% C.I: 1.0-185.4], certain that PrEP can be taken as an injection [aOR:20.4 with 95% C.I: 3.3-124.8] or daily taken oral PrEP as pills [aOR:15.8 with 95% C.I: 2.5-99.6], lack of hindrance to use PrEP [aOR:4.5 with 95% C.I: 1.0-19.5], and among those who would recommend it to others [aOR: 153 with 95% C.I: 3.5 -66.3].

Conclusions: The study reveals high awareness and acceptability of PrEP among young women university students but notes that the pill burden of oral PrEP may reduce its acceptability. It underscores the importance of campaigns to dispel myths and promote evidence-based messaging about PrEP. Additionally, introducing injectable PrEP options could enhance uptake in Rwanda.

Integration of HIV services with other services, including sexual and reproductive health services

EP0365

Community-centered approaches: insights from Toronto's sex workers' and former prisoners' HPV self-testing

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Background: In order to overcome stigma and limited access to healthcare, this pilot project investigated the acceptability of HPV self-sampling kits among marginalized women, such as sex workers and ex-prisoners. Providing stigma-free HPV testing in community settings, showcasing the ability to include HPV testing into larger HIV prevention initiatives, and proving how successful peer mobilizers are at reaching these populations were among the goals.

Description: Through two community organizations that serve marginalized women, this three-month study involved 80 women in Toronto from February to April 2024. Because of stigma and structural barriers to healthcare, PASAN mobilized 40 ex-prisoners and Maggie's mobilized 40 sex workers, both of whom were at high risk for HPV-re-

lated health problems. HPV self-testing kits were made available to participants in comfortable drop-in center environments.

Women between the ages of 25 and 69 who were not pregnant or breastfeeding and had not had a Pap smear or HPV testing within five years were recruited by peer mobilizers. Nurses trained them on how to use the kit, and later mobilizers would go with participants who had abnormal test results to hospitals for pap smears. Data collection highlighted the acceptability and convenience of self-testing, demonstrating the success of community-led approaches in reducing barriers to cervical cancer prevention and providing stigma-free care. This project emphasized the importance of tailored strategies to improve health equity.

Lessons learned: Through strong community engagement and peer mobilization 80 participants were mobilized in 3 months. By making HPV self-testing kits available in community-based settings, accessibility was guaranteed, and prejudice issues were allayed. On-site nurses offer direction, which boosts participants' self-esteem and contentment. To meet the special requirements of sex workers and ex-prisoners, flexibility and cultural awareness reduced resistance and increased inclusion. Peer-led involvement, decentralized testing, integrated care, and on-site assistance were among the best approaches. More than 90% of participants said they were satisfied, and the majority suggested the kits because they were convenient.

Conclusions/Next steps: The pilot study combined HIV treatment and HPV screening, demonstrating the value of community-based, peer-led healthcare for marginalized populations. By offering services in safe spaces, it was able to overcome barriers like stigma.

EP0366

Urgent need for syphilis micro-elimination among MSM living with HIV in Georgia

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Background: A systemic review and meta-analysis of syphilis among Men who have sex with men (MSM) report, that global prevalence of syphilis among MSM is 15 times higher than that of men in the general population (7.5% compared to 0.5%). These finding highlights the urgent need to assess and address syphilis burden in Georgian MSM living with HIV.

In this study we are reporting the trend of syphilis prevalence and incidence in Georgian MSM living with HIV over the period of 20 years in order to address syphilis epidemic for the purpose of micro elimination action plan proposal.

Methods: We have retrospectively analyzed syphilis laboratory testing data among MSM and non-MSM population living with HIV. RPR and/or TPHA laboratory results were extracted from national HIV health information system since 2004.

The prevalence of syphilis was calculated at using test result conducted at registration visits at AIDS Centers throughout the country. HIV cumulative incidence was calculated by person month using R packages "tidycmprsk". Maximum follow-up period was 15 months.

Results: Laboratory testing data for syphilis were available for 87% MSM (1283 from 1476) compared to 68% of the non-MSM group (6399 from 9324). Among tested MSM cohort, 37.7% (484/1283) had positive syphilis results, whereas only 11.4% (731/6399) of the non-MSM group. This difference was statistically significant (X-squared = 553.24, 95% CI 0.23–0.29, $p < 0.001$). Interestingly, since 2016 there has been a notable and sustained increase in the prevalence with rates rising to 51% among MSM and 25% among non-MSM population. We suspect that the observed doubling of syphilis prevalence among the non-MSM group may be attributable to the presence of a hidden MSM population within non-MSM cohort.

A total of 484 new syphilis cases were diagnosed during the study period, yielding an observed incidence rate of 11.3 per 100 person-years (95% CI: 10.3 – 12.3).

Conclusions: Our study identifies a significant increase in syphilis prevalence and incidence over time, particularly among MSM, underscoring the critical need for continued surveillance and targeted interventions, such as the implementation of DozyPEP, to mitigate transmission and facilitate micro-elimination within this population.

EP0367

Enhancing HIV/STI services accessibility through ProtectNow Linktree: a digital initiative in Malaysia

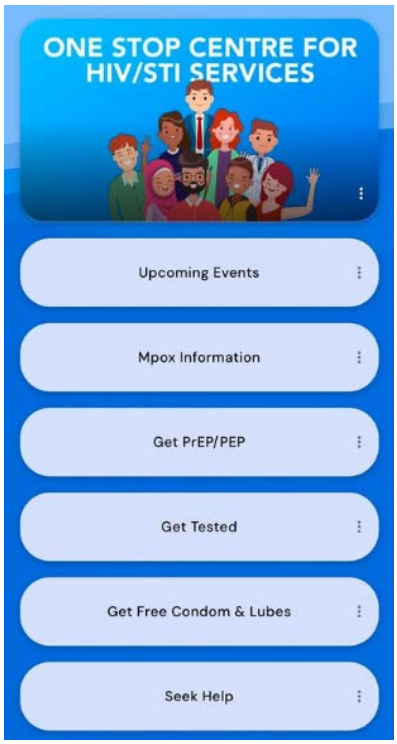
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Background: In response to the growing need for accessible HIV and STI services in Malaysia, ProtectNow Linktree was launched as a digital platform designed to centralize and streamline access to a variety of services. The platform provides a user-friendly directory of HIV/STI-related services, including HIV testing, PrEP/PEP, chemsex tools, addiction clinics, and support networks.

Aimed at improving service accessibility, ProtectNow also acts as an online learning hub for community health workers (CHWs), creating a supportive environment for at-risk populations.

Description: Since its launch, ProtectNow has gained significant traction, with over 54,000 views, a 72% click rate, and a growing subscriber base. The platform's most popular services are HIV testing and PrEP/PEP, demonstrating a clear demand for HIV/STI prevention tools. A key feature of ProtectNow is its ability to connect users directly with CHWs via WhatsApp, facilitating immediate support and service delivery.



Service	Clicks
Get PrEP	12.54k
PrEP at klinik kesihatan	10.13k
PrEP at private clinic and pharmacies	5.43k
Get tested	11.8k
Test at NGO	5.07k
Order free HIV self-test kit	3.17k
Chemsex Tools	2.15k

Lessons learned: This digital initiative aligns with global trends emphasizing digital tools in improving healthcare access, as seen in studies like Lee et al. (2018). The success of ProtectNow highlights the potential of digital platforms to bridge healthcare gaps, especially for hard-to-reach populations.

Conclusions/Next steps: The impact of ProtectNow on HIV/STI prevention and testing is substantial, offering a seamless pathway for users to connect with essential services. The platform's future expansion promises further reach and integration of specialized services, strengthening Malaysia's overall HIV/STI response strategy.

By continuing to enhance digital tools like ProtectNow, Malaysia can improve the accessibility and effectiveness of HIV/STI services, driving progress in the nation's public health efforts.

EP0368

Provision of HIV pre-exposure prophylaxis to migrants who self-identify as priority populations along their migratory route in Guatemala and Colombia offered an effective additional prevention tool

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Background: UNAIDS target for HIV prevention is for 95% of people at risk of HIV acquisition, to use pre-exposure prophylaxis (PrEP) and condoms. Reports around PrEP uptake among migrants are understudied, despite the socioeconomic vulnerabilities which put them at increased HIV risk, particularly among priority populations (PP).

The PEPFAR/USAID-funded Meeting Targets and Maintaining Epidemic Control (EpiC) project offers PrEP to close equity gaps among PP migrants transiting through Colombia and Guatemala.

Methods: Condoms, lubricants, HIV testing services, and oral PrEP were provided through Corporación Red Somos and Asociación Lambda in six cities (Bogotá-Soacha, Barranquilla in Colombia; Guatemala City, San Marco, Chiquimula, Izabal in Guatemala). Clients were reached through peer networks and offered HTS at hot spots (defined as areas of high HIV vulnerability where migrants transit), at Red Somos-supported clinics and Lambda-supported migrant shelters; Red Somos initiated PrEP directly, while Lambda navigated clients to another organization for PrEP initiation.

Clients were counseled about PrEP initiation and refill in other countries along their migratory route. We present aggregated project data from June through September 2024 for HIV negative clients offered and started PrEP, disaggregated by PP type (men who have sex with men [MSM], female sex workers [FSWs], trans [trans] people, and "other PP" [bisexual, lesbian, intersex, queer]). For the Red Somos subset of PrEP clients, we present syphilis test (non-treponemal followed by treponemal test) and treat data.

Results: Among 166 PP migrants testing HIV negative, 100% were offered PrEP, 69% (115) of whom started with a 90-day supply. Of these, 62% (71) were MSM, 15% (17) FSWs, 13% (15) trans, and 10% (12) other PP. Among 109 PrEP clients, 20% (22) tested syphilis positive: 24% among MSM, 12% among FSW, 20% among trans, 8% among other PP; 100% were treated.

Conclusions: EpiC effectively provided PrEP services to PP migrants moving along the migratory route in Colombia and Guatemala. However, optimizing service delivery and PrEP use requires understanding PP migrants' barriers and facilitators to PrEP initiation.

The high syphilis prevalence highlights the critical role of PrEP and the need for integrated sexual health services that address HIV prevention and STI management among PP migrants.

EP0369

STI diagnosis and interest in using doxy-PEP among men who have sex with men and transgender women in Brazil

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Background: Sexually transmitted infections (STI) remain a public health challenge, disproportionally affecting men who have sex with men (MSM) and transgender women (TGW) in Latin America. Despite its efficacy in preventing bacterial STIs among these populations, the adoption and implementation of doxycycline post-exposure prophylaxis (doxy-PEP) in the Global South remain limited.
We aimed to explore factors associated with recent STI diagnoses and willingness to use doxy-PEP among MSM and TGW in Brazil.
Methods: This was a cross-sectional online survey among Brazilian MSM and TGW aged 18+ years, recruited via dating apps and social media (August-December, 2024). Participants were grouped by according to recent STI diagnosis in the past 6 months (yes/no). Multivariable logistic regression models identified factors associated with interest in using doxy-PEP for STI prevention.
Results: Among 9,356 participants, 82.7% were aged 30+ years, 99.2% cis-men, 56.0% white, 74.9% had post-secondary education and 77.4% residing in capital cities. Self-reported HIV prevalence was 24.8% were living with HIV 26.5% of all participants reported current or past HIV pre-exposure prophylaxis (PrEP) use.
Overall, 15.4% (n=1,440) reported at least one STI diagnosis in the past 6 months (syphilis: 9.6%; gonorrhea: 3.9%; chlamydia: 2.5%). Participants with recent STI diagnoses were more likely to be Black/*Pardo* (49.8% vs 42.9%; p=), report 5+ sexual partners in past 6 months (65.8% vs 34.4%; p<0.01), engage in chemsex (40.9% vs 23.4%; p<0.01), have higher HIV knowledge (HIV Knowledge Score [Median, IQR]: 12[11,12] vs 11[11,12]; p<0.01), and lower internalized LGBTQIAPN+phobia scores (8[3,16] vs 9[4,17], p<0.01). Factors associated with interest in using doxy-PEP included being Black/*Pardo* (aOR:1.22[95%CI:1.06–1.41]), having recent STI diagnosis (aOR:2.11[95%CI:1.61–2.81]), 5+ sex partners (aOR:1.99[95%CI:1.69–2.36]), stimulant drug use in past 6 months (aOR:2.06[95%CI:1.60–2.70]), living with HIV (aOR-:1.82[95%CI:1.52–2.18]), and ever PrEP use (aOR:2.28[95%-CI:1.89–2.76]).
Conclusions: A substantial portion of Brazilian TGW and MSM were willing to use and could benefit from doxy-PEP, despite the lack of official national guidelines. The interest was associated to self-perceived risk factors and prior healthcare engagement, emphasizing the need for implementation studies to assess the challenges and the feasibility of doxy-PEP in the Global South.

EP0370

Enhancing HIV and sexual reproductive health education through technology: lessons from the Tubimenye Platform in Musanze District high schools

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Background: Adolescents in Rwanda face significant barriers to accessing accurate information on HIV prevention and sexual reproductive health (SRH), including cultural taboos, inadequate teacher training, and limited engagement platforms. These challenges are particularly pronounced in remote areas, where access to healthcare professionals is scarce. In line with UNESCO's digital strategy for schools and Rwanda's ICT in Education policy, the Tubimenye Platform was developed to utilize smart classrooms as a tool to deliver HIV prevention and SRH education, addressing gaps in adolescent health education through innovative digital solutions.
Description: The Tubimenye Platform was implemented in 2023-2024 across three high schools in Musanze District, leveraging the government's progress in equipping 52% of high schools with smart classrooms by 2021. Students participated in interactive sessions twice weekly, facilitated by teachers in the classroom and nurses who provided remote support through the platform.
The platform offered features such as private consultation rooms for anonymous health inquiries, interactive modules, health dialogue pages, and educational videos covering HIV/AIDS, sexually transmitted infections, puberty, contraception, and gender equality. By integrating these resources, the initiative aligned with the national vision of expanding digital health tools to enhance preventive care.
Lessons learned: The use of smart classrooms for health education proved highly effective, with students' pre-test scores improving from 56% to 74.8% within one year. Additionally, no teenage pregnancies were reported in participating schools during the project period. The involvement of nurses ensured students received accurate responses to their questions, while the digital tools fostered a safe and engaging learning environment.
This initiative demonstrated that smart classrooms could serve as a scalable model for preventive health education, particularly in resource-limited settings.
Conclusions/Next steps: The Tubimenye Platform highlights the potential of digital health tools and smart education to improve adolescent health outcomes. By aligning with UNESCO and national strategies, it provides a sustainable model for integrating HIV prevention and SRH education into high school curricula. Scaling this initiative to more schools could significantly contribute to achieving national and global health goals.

EP0371

The impact of highly active antiretroviral therapy on reproductive health outcomes on women living with HIV: a systematic review of global evidence

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Background: Globally, 53% of individuals living with HIV are women, hence the need to address gender-specific health challenges in the HIV response. While studies have examined the effects of antiretroviral therapy (ART) on reproductive health outcomes, they often focus on specific areas, such as pregnancy outcomes, lacking a comprehensive overview of the broader impacts on reproductive health.
This systematic review aims to fill this gap by synthesizing global evidence on the long-term effects of highly active antiretroviral therapy (HAART) on the reproductive health of women living with HIV.
Methods: A systematic review was conducted following a pre-registered protocol in the PROSPERO database (CRD42024601944). A thorough search of Scopus, Web of Science, Google Scholar, and PubMed to identify studies published from 2010 to 2024. Participants in the included studies were women of childbearing age who were on antiretroviral therapy (ART) before conception.
The extracted outcomes include pregnancy outcomes (conception rate, miscarriage, and live births), maternal outcomes (maternal mortality and morbidity), and infant health outcomes (birth weight and neonatal HIV transmission). We synthesized the extracted outcomes descriptively to provide a comprehensive analysis of the impact of ART on reproductive health.
Results: A total of 52 studies, majorly conducted in Africa (n=23), met the established inclusion criteria. Forty-eight of these studies showed no significant relationship between conception rates and the use of highly active antiretroviral therapy (HAART), but four studies reported a low rate.
The majority of studies (n=38) indicated a live birth rate exceeding 80%. However, comprehensive data regarding miscarriage rates were not provided.
The initiation of HAART at an early stage was associated with a substantial reduction in maternal mortality and morbidity (n=12). Nonetheless, four studies identified adverse health outcomes, such as hypertension linked to the use of a Dolutegravir-based regimen.
Additionally, infant outcomes frequently included low birth weight <2500 g (n=30), and rare occurrences of abnormal congenital anomalies (n=2), with no documented cases of neonatal HIV transmission.
Conclusions: Long-term antiretroviral therapy is associated with good pregnancy outcomes, mitigates maternal mortality and morbidity, and reduces the risk of adverse events for newborns. Therefore, expanding ART coverage to antenatal centers is essential to achieving greater global impact.

EP0372

Policy changes and ground preparation for implementation of dual HIV/Syphilis testing among pregnant women in Cameroon: challenges, solutions and next steps

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Background: HIV prevalence among pregnant women (PW) decreased from 7.6% in 2009 to 4.2% in 2020, during the same period, syphilis prevalence increased from 0.6% to 13.9%. In 2023, approximatively 1 million PW were received nationwide, over 30% were not tested for syphilis (6.00 USD per test) compared to 98% tested for HIV (free test). Only 33% of syphilis-positive women in 2022 received treatment.
The Syphilis Free Start (SFS) project aims to support the Ministry of Public Health (MOH) accelerate the adoption of HIV-Syphilis dual test to improve syphilis screening and treatment. This summary outlines efforts to create an enabling environment for dual testing implementation in Cameroon.
Description: The SFS project, launched in 2023, fostered discussions on triple elimination of HIV, Syphilis and Hepatitis B. The 5-year program fighting congenital syphilis supported the establishment of a multi-stakeholder taskforce under MOH leadership.
The taskforce helped the government optimize resources and monitor activities. Key accomplishments include: HIV National Strategic Plan revised to integrate dual testing; an Operational Plan for HIV-Syphilis elimination elaborated; development of a transition plan for HIV testing algorithm from two to three tests with dual HIV-Syphilis tests as first test for PW; elaboration of training modules and training of national trainers; and planned phased roll-out approach in 260 public and private health facilities across 35 health districts in 4 regions targeting 157,355 PW to start.
Challenges included securing MOH buy-in, following timeline, and ensuring an efficient supply chain.
Lessons learned: A multi-partners taskforce under MOH leadership is crucial for program coordination.
Effective government leadership and partner engagement optimize resources, merging similar activities for financial optimization.
Regular monitoring and communication for adjustments are essential.

Conclusions/Next steps: Cameroon is rolling out free dual HIV-Syphilis test, reducing syphilis screening costs to 0.00 USD with same-day results and treatment, cost harmonization policies for syphilis treatment currently underway.

EP0373

High prevalence of Dolutegravir Resistance and associated factors among people living with HIV with virologic failure in North Eastern Uganda: a retrospective study (2022–2024)

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Background: In 2018 Uganda transitioned people living with HIV (PLHIV) from Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) to Dolutegravir (DTG)-based regimens (DBRs) as per WHO guidance. However, limited data exist on resistance to DTG. This analysis aims to determine the prevalence of DTG resistance and its predictors among PLHIV on DBRs in North Eastern Uganda.
Methods: This retrospective analysis selected PLHIV records from 24 health facilities in North Eastern Uganda between April 2022 and July 2024. Participants included those on DBRs with at least two consecutive viral loads >1000 copies/mL, who had HIV drug resistance (HIVDR) testing. Clinical and demographic data were extracted from the National HIVDR database and cross-verified with the facility's electronic medical records.
Data were analyzed using STATA 16 and summarized into frequencies and percentages while predictors of DTG resistance were determined using the modified Poisson regression model. A p-value <0.05 was considered statistically significant.
Results: A total of 225 PLHIV records were analyzed. Overall, 55.11% (124/225) were male, Median age was 19 (interquartile range; [IQR]15-39), of whom 48% (22/55) were aged 10-19, 32.73% (18/55) aged >35 years and 20% (11/55) aged 20-24, 45.3% (102/225) were unemployed, 44.4% (100/225) had primary education, 74.22% (167/225) had not disclosed HIV status, 48.4% (127/225) had WHO Stage I, 36.89% (83/225) on DTG 1 to 2 years, while 58.67% (132/225) had CD4 count of >200 cells/µl and 31.56% (71/225) experienced stigma and discrimination.
Overall, 22.22% (50/225) of individuals had (intermediate to high DTG scores≥30). DTG-resistance (Intermediate and high) was associated with NRTI resistance [adjusted prevalence ratio [aPR]; 4.51, 95% confidence interval [CI]; (1.62-12.48, p=0.004], poor adherence [aPR; 2.69, 95% CI; 1.52-4.55, p=0.001], alcohol and substance abuse [aPR; 1.65, 95% CI; 1.03-2.76, p=0.035] and family dysfunction [aPR; 1.91, 95% CI; 1.01- 3.59, p=0.043].
Conclusions: In this study, we determined DTG resistance was high in North Eastern Uganda and was associated with poor adherence, alcohol substance abuse, and weak family support. Strengthening peer support systems, integrating substance abuse screening, and improving adherence could avert DTG resistance in the region.

EP0374

Integrated sexual and reproductive health services for Adolescent Girls and Young Women in South Africa: addressing unmet needs through comprehensive screening and service delivery

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Background: Adolescent girls and young women (AGYW) are disproportionately affected by HIV, sexually transmitted infections (STIs), and unintended pregnancies, often having multiple, intersecting prevention needs. Providing integrated sexual and reproductive health (SRH) services provides an opportunity to respond to health needs that would be missed by siloed delivery of services.
We describe the services provided, in addition to those requested among AGYW accessing routine, integrated, primary healthcare services in South Africa.
Methods: We analysed routinely collected clinical data from a sub-set of 6,955 AGYW (15-24 years) who presented and requested only one SRH service at entry between June 2023 and September 2024, within a South African PrEP implementation science study across four geographical areas.
For our analysis, we grouped AGYW according to the primary service they requested at the presentation, of those most frequently requested, namely:
1. HIV testing,
2. Pre-exposure prophylaxis (PrEP), or;
3. Contraceptive services.
Cross-tabulations were performed to determine the additional SRH services received by those only requesting one service at entry.
Results: Of 14,426 clients who accessed various primary healthcare services during the study period, 74.4% (n=10,740) were AGYW. Amongst these, 6,955 (74.4%) sought only one of the common SRH services offered. Of those presenting for HIV testing only (n=1,887; 27.1%), 98.4% (n=1,856) were tested for HIV, 79.3% (n=1,497) were screened for STI symptoms, 65.2% (n=1,230) initiated PrEP, and 42.9% (n=809) received contraceptives. Among those presenting only for contraceptives (n=2,575; 37.0%), 70.9% (n=1,826) were tested for HIV, 94.7% (n=2,438) received contraceptives, 97.8% (n=2,518) were screened for STI symptoms and 35.7% (n=920) initiated PrEP.
Among those presenting only for PrEP (n=2,493; 35.8%), 98.8% (n=2,463) were tested for HIV, 98.1% (n=2,446) were screened for STI symptoms, 38.8% (n=968) received contraceptives and 93.0% (n=2,318) initiated PrEP.
Conclusions: An integrated SRH service model addresses AGYW's diverse health needs, but proactive screening for unrequested services is vital to respond to unidentified health needs. Holistic, client-centred strategies are essential to improving health outcomes and reducing the burden of HIV, STIs, and unintended pregnancies.

EP0375

Prevalence of human papilloma virus in tree loci among women with various HIV status in the Republic of Tajikistan

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Background: Papillomavirus (HPV) is the cause of oncological diseases of genital and anal area. But there are no HPV vaccination programs in Tajikistan and screening programs are aimed only to prevent cervical cancer.
The purpose was to study prevalence of HPV in various anatomical loci among women with different HIV status in Tajikistan.
Methods: The study was carried out from March to November 2023 and included 100 wonen living with HIV (WLH) and 100 HIV-negative women. HPV testing by real time PCR for DNA detection of 21 HPV types and cytological analysis were performed. We analyzed samples from cervical canal, anal canal, vagina.
Results: Among all 200 women the majority were in reproductive age, average – 38.6±9.9 (20-74) years. In WLH women CD4 was 651.1±292 cells/μl, 99% were on ART. Prevalence of HPV in the cervical canal in WLH women was 33%, in HIV-negative – 12% (p<0.001).
HPV in the anal canal/rectum was detected in 35% WLH and 14% HIV-negative wonen (p<0.001). HPV in the vagina was in 36% WLH and 15% HIV-negative participants (p<0.001). Varying degrees of cytological intraepithelial lesion of cervix were in 16% WLH and in 5% HIV-negative women (p=0.012). Thera were no intraepithelial lesions of anal canal among HIV-negative women versus 4% WLH (p=0.044).
Conclusions: The prevalence of HPV and intraepithelial changes in various loci among women in Tajikistan shows the need to expand screening, especially among women living with HIV, and introduction of prevention and information programs to reduce HPV-associated diseases.

EP0377

Integrated programming for vulnerable groups-HIV & HCV among people who use/inject drugs & their spouses in outreach & prison settings, Pakistan

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Background: Nai Zindagi (NZ) is leading efforts to tackle the healthcare challenges faced by People Who Inject or use Drugs (PWID/PWUD) in Pakistan, particularly in relation to HIV and Hepatitis C (HCV) infections. Historical barriers like insufficient screening, fragmented healthcare systems, and deep-rooted stigma have made access to treatment difficult.
In response, NZ has developed a comprehensive approach, integrating HCV care within its harm reduction services to reach those most in need.
Description: In 2024, NZ incorporated HCV testing into its harm reduction services across 62 districts to ensure that high-risk individuals are routinely screened for early identification and treatment intervention.
In addition, HCV treatment program has been initiated in collaboration with Agha Khan Hospital and Medical College Foundation across 11 high-priority districts from diagnostics and medical consultations to medicine provision and post-treatment monitoring. NZ has also extended its testing and treatment services to 25 prisons of Sindh & KPK provinces.
Lessons learned: From February 2024, screening results revealed a 66% positivity rate among PWID (n=14,475), among whom 74.4% were co-infected with HIV-HCV. For spouses of PWID, the positivity ratio was 10.5% in tested (n=3,758) while co-infection of 12% (HIV/HCV) was found. Among 822 individuals referred across 11 districts for HCV treatment, 76% were PCR positive, leading to a 97% treatment uptake (n=626). Post-treatment PCR revealed a 76% cure rate for those tested for post treatment PCR, which is consistent with international benchmarks of HCV cure observed among PWID in developed countries (Bryne et al., 2021; PMC).
These findings underscore the importance of addressing co-infections within each subgroup to enhance health outcomes. NZ's forward-thinking model effectively addresses critical healthcare gaps for PWID/PWUD, offering a feasible solution for management of Co-infection.
Conclusions/Next steps: In absence of case management approach, integration of services in routine outreach programming has demonstrated efficacy in treatment outcomes. There is an immense need of further resources to address treatment gap for those who has been diagnosed in screening.

EP0378

Prevalence and risk factors of renal dysfunction among HIV patients: findings from a nested study in the CHAO cross-sectional cohort in Meru County, Kenya

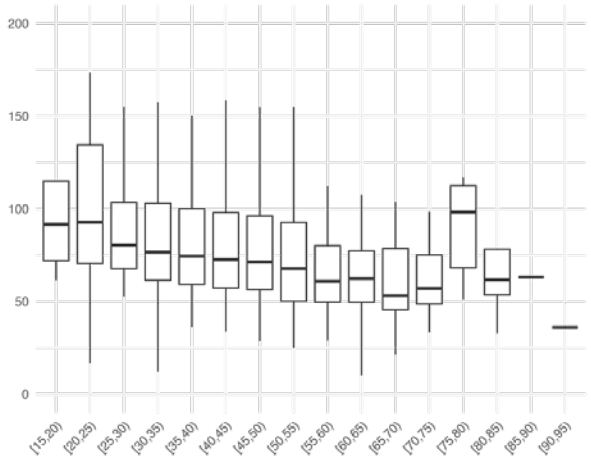
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Background: Renal dysfunction is a growing concern among HIV-positive populations, particularly in sub-Saharan Africa. Previous studies have identified general risk factors, such as advanced age, reduced CD4 counts, and elevated viral loads.

This study aims to assess the prevalence and determinants of renal dysfunction among HIV-positive individuals receiving ART in Meru County, Kenya.

Methods: This study is a nested sub-analysis within the broader CHAO cross-sectional cohort. Eligible participants included adult people living with HIV (PLWH). Renal function was classified in: normal (>90 mL/min), mild (60-90 mL/min), moderate (30-60 mL/min), and severe impairment (<30 mL/min). Logistic regression models were employed to determine the risk factors associated with eGFR levels below 60 mL/min. Data collection encompassed demographic variables, ART regimen details, and the presence of comorbidities.



Results: Among the 1,042 participants included in the analysis, 33.4% demonstrated evidence of renal dysfunction, characterized by an eGFR below 60 mL/min. The findings indicate that advancing age is a significant predictor of renal impairment, with the odds of reduced eGFR increasing by 24% for each additional five-year increment (OR: 1.24; 95% CI: 1.16–1.33; p<0.001).

Female participants exhibited a nearly fivefold increased likelihood of renal dysfunction compared to their male counterparts (aOR: 4.76; 95% CI: 3.13–7.69; p<0.001). The presence of dyslipidemia was linked to an increased risk, with the odds of reduced eGFR rising by 12% for every 10-unit increase in cholesterol levels (aOR: 1.12; 95% CI: 1.08–1.15; p<0.001).

Other comorbidities, including hypertension and obesity, were more prevalent among patients with impaired renal function.

Conclusions: This study highlights the prevalence of renal dysfunction in PLWH, especially older women and those with metabolic comorbidities. It emphasizes the need for targeted renal monitoring and management, integrating HIV and non-communicable disease care to address renal impairment, particularly in resource-limited settings.

EP0379

Low bacterial load is associated with asymptomatic gonorrhea and chlamydia in key populations

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Background: Asymptomatic gonorrhea and chlamydia (NG/CT) are the source of ongoing transmission. We aimed to evaluate the association between NG/CT bacterial load (inversely estimated by Cycle threshold value) in positive samples and the presence of symptoms in key population.

Methods: We included samples with NG/CT diagnosis from asymptomatic (AP) and symptomatic participants (SP) attending an STI center in Buenos Aires, Argentina from February to October 2022.

AP samples included NG/CT screening in first void of urine, rectal and pharyngeal swabs in men who have sex with men (MSM).

SP samples included urethral and/or rectal swabs in MSM and transgender women (TGW).

No participant presented with pharyngeal symptoms so all pharyngeal samples were from AP. Diagnosis of NG/CT was performed by real-time PCR, allowing the determination of the Cycle threshold value (Ctv). Ctv is inversely related to bacterial load (BL) being Ct ≤ 28 considered high BL and Ct ≥40 considered negative.

We compared Ctv among SP and AP in different locations using the Wilcoxon rank sum test.

Results: Of 66 NG/CT positive samples from 49 participants, 46 were from AP and 20 from SP. In rectum, SP had lower Ctv than AP for NG and CT (p < 0.05). In urethra, gonorrhea showed lower Ctv in SP vs AP (23.5 vs. 38; p = 0.004), while for chlamydia there were no differences.

In pharynx, Ctv in AP were high (gonorrhea: 35.8; chlamydia: 37.6). Median global Ctv in AP was higher than SP (p <0.001), indicating low BL. (Table 1, below.)

Conclusions: Asymptomatic NG/CT in key populations was associated with low BL (most Ctv near the cut-off limit of detection), which might have implications in spontaneous clearance and potential transmission.

Positive samples	Ct median value (IQR)/overall	Asymptomatic participants Ct median value (IQR)/ n	Symptomatic participants Ct median value (IQR)/ n	p-value
Gonorrhea in rectum	33.8 (29.8, 35.9) n: 17	34.6 (32.0, 36.0) n: 14	25.9 (25.5, 29.8) n: 3	0.047
Chlamydia in rectum	30.1 (28.3, 33.7) n= 15	33.7 (30.1, 37.4) n= 8	28.6 (27.0, 30.5) n = 7	0.021
Gonorrhea in urethra	31.7 (25.1, 38.0) n= 11	38.0 (35.6, 39.3) n= 6	23.5 (21.6, 26.8) n= 5	0.004
Chlamydia in urethra	29.45 (25.73, 30.77) n: 6	32.15 (32.15, 32.15) n: 1	29.26 (24.55, 29.64) n: 5	0.3
Gonorrhea in pharynx	35.8 (34-38.5) n: 10	35.8 (34-38.5) n: 10	- n:0	
Chlamydia in pharynx	37.6 (35.7-37.8) n: 7	37.6 (35.7-37.8) n:7	- n:0	
Global gonorrhea	35.4 (33.4, 37.8) n:38	35.4 (33.4, 37.8) n:30	25.5 (23.0, 26.9) n:8	<0.001
Global Chlamydia	31.2 (29.1, 36.6) n:28	35.8 (31.9, 37.7) n: 16	28.9 (26.0, 30.0) n:12	<0.001

Table 1. Comparison of NG/CT Ct values between asymptomatic and symptomatic participants.

EP0380

Findings from integrating COVID-19 vaccination into HIV clinics: programmatic outcomes and reasons for vaccine hesitancy among people living with HIV in 2023 in the littoral, Cameroon

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Background: People living with HIV (PLHIV) have an increased risk of developing severe COVID-19 disease. Integrating COVID-19 immunization within health facilities was identified as a promising strategy to prevent COVID-19 among PLHIV. The infodemic surrounding the introduction of COVID-19 vaccines affected vaccine uptake among vulnerable populations such as PLHIV.

We assessed COVID-19 vaccination uptake among PLHIV and identified potential reasons for hesitancy among PLHIV in the Littoral region of Cameroon

Methods: Routine data collected on PLHIV who accessed care between June and September 2023 in 14 health facilities implementing the Global VAX project in the Littoral region were retrospectively analyzed. In May 2023, a package of COVID-19 services was integrated into selected HIV clinics, including SARS-CoV-2 symptoms screening, rapid antigen testing and vaccination for those eligible. The integration strategy relied on existing personnel and two additional nurses and data clerks.

We performed descriptive analysis to show uptake of at least one dose of the COVID-19 vaccine among the eligible population of PLHIV, completion of the vaccination regimen among those who started the regimen, and reasons for vaccine hesitancy. Vaccine refusal was the primary measure of vaccine hesitancy (vaccination delay and only accepting one dose were other measures).

Results: Overall, 9,769 HIV clinic attendees (73.5% female, 67.1% aged 18-49 years) were included. We excluded 3,078 (31.5%) declared not eligible for COVID-19 vaccine based on Cameroon COVID-19 guidelines. Of the 6,691 (68.5%) eligible clients, only 702 (10.5%) received at least one dose of vaccine. Among those who started the COVID-19 vaccination regimen, 517/702 (73.6%) completed the regimen and were deemed fully vaccinated. Among the

5,989/6,691 (89.5%) ART clients not vaccinated, the most frequent reasons for vaccine hesitancy were mistrust of any type of vaccine (20.2%), mistrust of COVID-19 vaccine specifically (20.1%), not concerned about getting COVID-19 (13.8%), fear of side effects (12.9%), and not being sure that COVID-19 exists (12.5%).

Conclusions: COVID-19 vaccine was successfully integrated into HIV clinics in Littoral, but with low uptake. Suboptimal uptake was likely driven by vaccine hesitancy.

Understanding the drivers of vaccine hesitancy among PLHIV can inform enhanced communication around health seeking behaviours and improve future vaccination uptake among PLHIV

EP0381

Human papillomavirus (HPV) vaccination uptake among adolescent girls living with HIV (AGLHIV) in Cote d'Ivoire: a national multi-center study

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Background: To eliminate cervical cancer as a public health threat, WHO has set the goal of reaching 90% of HPV vaccination coverage. In Côte d'Ivoire, national HPV vaccination has been scaled-up since 2019, targeting girls aged 9-14, free-of-charge. However, vaccination uptake in adolescent girls living with HIV (AGLHIV), still requiring a three-dose schedule are lacking. We estimated the HPV vaccination uptake and associated factors among AGLHIV in Cote d'Ivoire.

Methods: A cross-sectional study was conducted within HIV pediatric care facilities at a national level. Participating facilities were selected through a hybrid sampling combining a convenience approach by including the largest HIV pediatric facilities including those contributing to the leDEA West Africa pediatric cohort; and a random sample of integrated facilities based on the national HIV registry.

A standardized questionnaire assessing vaccine uptake and related factors was administered to actively followed AGLHIV aged 9-19 (and/or their parent/legal guardian), separately. A logistic regression analysis was used to identify factors associated with HPV vaccination uptake.

Results: Between July and November 2024, a total of 476 AGLHIV were included: median age of 15 years [Interquartile range (IQR): 12 - 17)], living in Abidjan for 47.9%, and in HIV-care since nine (IQR: 5 -12) years. Among participants, 65 (13.7%) had received at least one dose of HPV vaccine: 53 (11.1%) one dose; nine (1.9%) two doses and three (0.6%) three doses. HPV vaccine uptake was higher in facilities from outside Abidjan (19.4%) than Abidjan (7.5%), p<0.001. AGLHIV followed up outside Abidjan (aOR = 3.28 [Confidence Interval at 95% (CI95%): (1.69 – 5.74)], and identifying HPV as a sexually transmitted infection (aOR = 3.64 [CI95%: (1.66 – 7.99)] were more likely to get vaccinated compared to others. Main reported barriers to HPV vaccination were a lack of information about vaccine (84.7%) and the fear of adverse effects (4.4%).

Conclusions: HPV vaccine uptake is worryingly low among AGLHIV in Cote d'Ivoire despite decentralization and affordability of the immunization program. A sensitization program is needed targeting AGLHIV, their parents and caregivers. HPV vaccination initiatives through HIV facilities are also required to achieving the WHO 90% HPV vaccination coverage in AGLHIV.

EP0382

Hypertension cascade of care among adults living with HIV in Zambia and Zimbabwe: a cohort analysis

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Background: Arterial hypertension is a major risk factor for premature death and disability, with the African region having the world's highest prevalence. With HIV endemic in Africa, integrated care services manage comorbidities like hypertension among peopleliving with HIV (PLWH). Little is known about service outcomes.

We describe the hypertension care cascade among PLWH in Zambia and Zimbabwe.

Methods: We analysed data from adults aged 30+ seen between 2019 and 2024. Participants were hypertensive if they had elevated blood pressure (systolic BP ≥ 140 mmHg and/or diastolic BP ≥ 90 mmHg) at two consecutive visits, or reported antihypertension therapy use. The cascade evaluated hypertension screening, confirmation, treatment, and control(systolic BP < 140 mmHg and diastolic BP < 90 mmHg on treatment). Multilevel logistic regression evaluated associations between age, sex and hypertension treatment/control.

Results: 541 PLWH were included; median age was 42 years (IQR 36-48), and 50.2% (n=272) were males. Median time in care was 2 years (IQR 1-3), and 87 (16%) had recent HIV viral load >1000 copies/ml. Hypertension prevalence was 26% in females (95% CI 21-32) and 25% in males (95% CI 20-30%). Among 139 persons with hypertension, 65% (n=91) reported treatment at latest follow-up, and 54% (n=49) were controlled (Figure). Men were less likely than women to be treated (aOR 0.34, 95% CI 0.14-0.83). Every

5-year age increase raised treatment likelihood by 40% (aOR 1.40, 95% CI 1.10-1.76). Evidence of sex- and age-based differences in hypertension control was weak; male odds were (OR 1.56, 95% CI 0.69-3.64), and 5-year age increase had odds (OR 0.82, 95% CI 0.66-1.05).

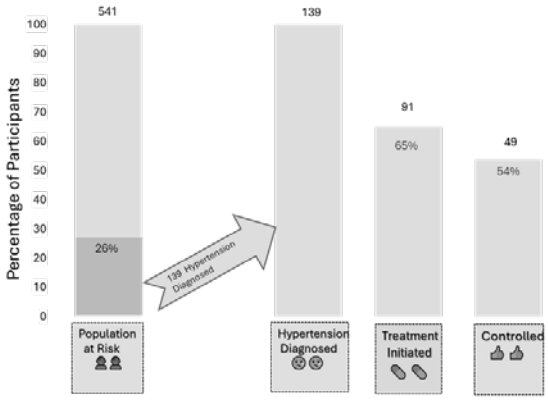


Figure: Hypertension care cascade among PLWH (2019-2024, n=541)

Conclusions: One in four PLWH has hypertension in our cohort. Males were less liekly to receive treatment. Evaluating current hypertenion control strategies including medication effectiveness and adherence support is essential for improved outcoomes within intergrated HIV services.

EP0383

Perceptions of concurrent use of injectable PrEP and injectable contraceptives among young women in Durban, South Africa

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Background: Young women in South Africa (SA) are at high risk of unintended pregnancy and HIV. Injectable contraceptives are popular and highly effective.
However, adherence to oral HIV pre-exposure prophylaxis (PrEP) remains challenging due to daily dosing. Injectable PrEP offers a promising alternative, potentially improving adherence and providing highly effective prevention. Perceptions around taking both injectable contraception and PrEP simultaneously to address the concomitant need to prevent pregnancy and HIV are unexplored. We investigated young women's perceptions of the concurrent use of injectable contraception and PrEP.

Methods: We conducted in-depth interviews with a subset of Black African women (≥18y) receiving oral PrEP and/or other reproductive and sexual health services in hair salons in urban SA through a randomized control trial. Participants were followed for 12 months. Interviews were conducted privately in a salon by trained interviewers in isiZulu, recorded with participant consent, and transcribed into English. Two research assistants performed a thematic analysis assessing participants' perceptions of the simultaneous use of injectable contraception and PrEP.
Results: We interviewed 51 participants who completed at least six months of study visits. Positive reactions to concurrent injection included convenience as a major benefit, describing how concurrent injections will save time by reducing the need for multiple clinic visits. This also contributed to ease of adherence, simplifying their prevention regimens.
Many women preferred injections because of their durability and reliability, suggesting they could be widely accepted. Participants largely expressed confidence in receiving dual injections, trusting their effectiveness and emphasizing the need to cater to individual preferences. Simultaneous injection was perceived as safe, enhancing participants' sense of security and trust in their effectiveness.
Despite these positives, some participants raised concerns about potential side effects and physical reactions to the two injections, as well as concerns about additional visits if the PrEP injection and contraception injection schedules didn't align.
Conclusions: Concurrent contraception and PrEP injections are perceived as a convenient, effective, and preferred option that can simplify adherence. However, addressing concerns about potential side effects, uncertainty about safety, and timing of simultaneous injections will be crucial as injectable PrEP becomes more readily available in South Africa.

EP0384

Burden of human papillomavirus (HPV) infection and precancerous lesions among women living with HIV in AIDS Healthcare Foundation (AHF) supported health facilities in rural and urban Rwanda

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Background: Women living with HIV (WLHIV) are about 6 times more likely to develop Cervical cancer from a persistent HPV infection compared to HIV-negative ones. In Rwanda despite high HPV vaccination coverage, cervical cancer screening and its integration into HIV clinics face challenges.

This study describes an initiative by AHF Rwanda to enhance cervical cancer screening and treatment among WLHIV across 38 supported sites.

Methods: In collaboration with the Rwanda Biomedical Center (RBC), a 3-month cervical cancer screening campaign was launched in 2023 focusing but not limited to women aged 25–65 years, with a focus on WLHIV in this cross-sectional study. The initiative included community mobilization, training of 76 HIV clinic healthcare providers, self-sampling molecular HPV-DNA testing kits, and reagent provision.

Eligible women following a molecular HPV-DNA positive test underwent Visual Inspection with Acetic Acid (VIA) for triage, followed by treatment using thermal ablation or Loop Electrosurgical Excision Procedure (LEEP) depending on lesion severity. Data was recorded in an electronic cervical cancer screening registry (mUzima/openMRS) and analyzed.

Results: Out of 17,174 eligible women, 7,320 (42.6%) were screened. The HPV positivity rate among WLHIV was 26.9% compared to 6.5% in HIV-negative women. Age-specific positivity rates were highest in women under 25 years (37.1%) and progressively decreased with age: 28.2% for 25–49 years, 23.7% for 50–65 years, and 23.3% for those over 65 years. The 25–49 age group represented the majority (68%) of participants. Among HPV-positive women, 1,396 underwent VIA triage (70.8%) with a VIA positivity rate of 16.8% in WLHIV, and 1,275 (91.3%) received thermal ablation. Additionally, 34 cases required referral for further management, including LEEP and biopsy.

Conclusions: This study proved that cervical cancer screening coverage in urban and rural Rwanda was still very low, yet the prevalence of HPV and precancerous lesions in WLHIV is significant. The age group most affected was those under 25, meaning we need to focus on younger age groups.

Integrating cervical cancer services into HIV clinics, along with ongoing community engagement, campaigns, and capacity building, is essential for improving coverage and meeting WHO's 2030 cervical cancer elimination targets.

EP0385

Impact of integrating music workshops, peer-peer education and scorecard sessions in reducing stigma and promoting access to HIV/SRHR services among AGYWs in institutions of higher learning in Malawi Pamodzi project

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Background: Adolescent Girls and Young Women (AGYWs) in higher learning institutions often face significant barriers to accessing HIV and Sexual and Reproductive Health and Rights (SRHR) services. Despite the availability of such services, challenges like limited awareness, stigma, unfriendly service provision, and inadequate support systems often prevent AGYWs from seeking essential healthcare. Additionally, there is a lack of accountability from service providers and policymakers to ensure accessible, quality services for AGYWs.

To address these challenges, MANASO is implementing an integrated approach of using MUSIC workshops, peer-to-peer education, and scorecards with support from USAID Pamodzi project since 2021. This approach has effectively improved knowledge, service uptake, and coordination.

Description: In 2021, 309 students from four colleges (MUBAS, UNIMA, LUANAR, and MCHC) were trained to conduct MUSIC workshops, peer-to-peer education, and scorecard sessions to raise awareness on HIV prevention, treatment, and SRHR. The MUSIC workshops uses music as a tool to promote HIV prevention, reduce stigma, and encourage students to take proactive steps in HIV care. Students create original songs on HIV-related issues, which are performed on campuses, sparking discussions and raising awareness.

In addition, the students serve as ambassadors to conduct peer-to-peer HIV/SRHR education, distribute condoms, and refer peers for other HIV/SRHR services. They also facilitate scorecard sessions to identify issues in health clinics that require attention from duty bearers.

Lessons learned: Results from 2022 to 2024 showed an 85% increase in students' knowledge of HIV and SRHR after the peer-to-peer education sessions. The songs reached almost all students on campuses, sparking dialogue.

Over 90% of participants in the music activities reported increased confidence in discussing HIV/SRHR issues. Ambassadors distributed over 532,741 condoms across four institutions over four years, with demand increasing from 13,948 condoms per institution in 2021 to 40,445 in 2024.

The scorecard sessions contributed to improved youth-friendly services and increased availability of HIV/SRHR commodities.

Conclusions/Next steps: The integrated approach has proven effective in raising awareness, reducing stigma, and improving service accessibility and quality for AGYWs. However, institutionalizing this approach is necessary for sustainability.

EP0386

Optimizing STI prevention: barriers, behaviors, and broader impacts of doxycycline post-exposure prophylaxis (DoxyPEP)

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Background: Doxycycline post-exposure prophylaxis (DoxyPEP) offers a novel approach to preventing sexually transmitted infections (STIs). While its clinical effectiveness is well-documented, gaps remain regarding its practical implementation, particularly regarding accessibility and behavioral adaptations.
This study explores these concerns at the University of Miami Rapid Access Wellness (RAW) clinic—a sexual health clinic that provides PrEP, nPEP, HIV care, and, as of May 2023, DoxyPEP—with the goal of optimizing DoxyPEP as a comprehensive tool for STI prevention.
Methods: Clients attending the University of Miami Rapid Access Wellness (RAW) Clinic from February to November, 2024 were approached and offered electronic surveys assessing DoxyPEP awareness, barriers, behavioral patterns, and satisfaction. Survey respondents completed informed consent including permission for linkage to medical records for further analysis.
Results: Participants (n=135) had a mean age of 36. 104 (77%) participants identified as male, 6 (4%) as female, and 21 (16%) as on the transgender spectrum. 93 participants (69%) identified as Hispanic/Latino and 18 (13%) identified as Black/African American. Mean number of sexual partners reported at participants' initial visit was 12. Overall, participants demonstrated high awareness of DoxyPEP (89%), with 77% actively using it. Most felt comfortable discussing DoxyPEP with doctors (92%), friends (60%), and sexual partners (55%). Cost was not a reported barrier for the majority of respondents (68%).
Nearly half (46%) of participants report some change in their sexual behavior as a direct result of taking DoxyPEP, with increased number of sexual partners (20%) as the largest behavioral change, followed by reduced condom use (17%), more frequent anal sex (15%), and oral sex (14%). Over half (55%) reported feeling less concerned about STI exposure. A majority (84%) have recommended DoxyPEP to others, primarily friends (67%), and 94% planned to continue use.
Conclusions: DoxyPEP was highly acceptable, well-utilized, and was perceived to be affordable by most. Many clients reported recommending DoxyPEP to others in their social / friendship networks, indicating a potential mechanism for broadening awareness of DoxyPEP among priority populations. Additional work to explore the extent and impact of risk compensation behavior may be warranted.

EP0387

Syphilis and hepatitis B among clients seeking injectable HIV pre-exposure prophylaxis from Western, Eastern, and Southern Province, Zambia in 2024

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Background: Syphilis and Hepatitis B Virus (HBV) are sexually transmitted infections (STIs) of significant public health concerns in Zambia, particularly among populations at high risk for HIV. Both STIs share transmission pathways with HIV (sexual and blood-borne). HBV is endemic with chronic prevalence of 5.6% among those aged 15-59 years. National prevalence of ever infected with syphilis is at 6.8% among those aged 15-59 years, while 3.4% of women in this age group have active syphilis infection. Among clients seeking injectable HIV pre-exposure prophylaxis (PrEP), STI co-infections pose additional risks. We screened clients initiating injectable PrEP for syphilis and HBV to inform integrated prevention strategies.
Methods: From February to October 2024, clients initiating injectable PrEP with cabotegravir long acting (CAB-LA) in Western, Eastern, and Southern Provinces of Zambia were screened for syphilis and HBV. Syphilis screening involved both rapid treponemal and non-treponemal assays; rapid positive tests were confirmed using rapid plasma reagin test (RPR). HBV testing included Hepatitis B surface antigen rapid tests. Data on sociodemographic characteristics, sexual risk behaviors, and prior history of STIs or HBV infection were collected. Deidentified and aggregated data were analyzed to assess the prevalence of co-infections.
Results: A total of 442 clients initiated on injectable PrEP across the three provinces were screened for syphilis and HBV. Clients ages ranged from 16 to 51 years (median, 25; interquartile range, 20-32). Of these, 418 were screened

for syphilis with 18 testing positive, resulting in positivity of 4.3% (18/418). Southern Province highest proportional contribution of syphilis, accounting for 78% (14/18) of cases, with equal sex distribution and a notable proportion (33%) among young adults. HBV screening showed 2/375 (0.5%) clients tested positive. Co-infection with both syphilis and HBV was observed in one female client from Southern Province, representing 0.2% (1/418).

Conclusions: Among CAB-LA users in Zambia, we found rates of syphilis similar to national estimates while HBV was lower than national prevalence. HIV prevention programs represent an opportunity to identify and offer treatment for co-transmitted infections; programs may consider supporting WHO CAB guidance encouraging testing CAB users for HBV. Variations in syphilis positivity yield indicate a need for targeted, region-specific interventions.

EP0388

Fragmentation of health systems as a threat to continuity of care for people living with HIV in Mexico

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Background: Public healthcare in Mexico is fragmented and based on employment status. People living with HIV (PLWH) face challenges when transitioning between health systems, potentially leading to loss in engagement in care and interruptions in antiretroviral treatment (ART) with individual and public health negative consequences. We aimed to describe the clinical outcomes and experiences of PLWH undergoing migration between different public health systems.

Methods: A cross-sectional study was conducted among PLWH aged ≥18 who had recently migrated between the main health systems in Mexico City (Health ministry, IMSS and ISSSTE) due to changes in employment status. Participants were required to have continuous HIV care in one system for at least 6 months and 3 months at the new site. Data was collected through an online REDCap questionnaire that included sociodemographic information, HIV diagnosis, and experiences related to health system migration.

We assessed: the time between referral and first consultation, interruptions in ART after referal to the new system, and the reasons reported, perceived quality of care in the new system, and user's experiences.

Results: Between June 2023 and October 2024, 162 participants answered the questionnaire. 136 (84%) were male, with mean age 43.7 years. 92 (57%) reported to have a steady job. Before migration 104 (64%) were receiving INSTI, and 131 (81%) were undetectable. After migration, 135 (89%) were enrolled in the new site within three months, and 17(11%) were engaged after 3 months or not engaged at all. 120(74%) reported ART adherence over 95%. Most participants 107 (66%) reported that migration was easy; 42 (26%) interrupted ART because: ART was not dispensed in the new site 23 (55%), not specified 10 (24%), not engaged in care in the new site 4 (10%) and personal decision 4 (10%). 34 (21%) reported an overall bad experience at the new site.

Conclusions: This study highlights that migration between healthcare systems for PLWH in Mexico is a significant obstacle for maintaining the continuity of care and retention required in successful ART programs. These results should prompt authorities to devise novel legal and administrative tools to protect the well-being of this vulnerable population.

EP0389

Incorporating point-of-care early infant diagnosis of HIV into routine postnatal care services in Nigeria: assessing mothers and caregivers' perspectives using the RE-AIM framework

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Background: Early infant diagnosis (EID) of HIV is crucial for timely management, reducing morbidity and mortality among exposed infants. However, access to point-of-care (POC) EID in Nigeria is very limited, leading to delays in diagnosis and management. Also, sociocultural and systemic barriers such as stigma, inadequate postnatal services and poor awareness in both the mothers and caregivers can significantly influence the provision and the incorporation of these services.

In this study we aimed to explore the perceptions of mothers and caregivers towards incorporating POC EID into routine postnatal care services in a Nigerian hospital.

Methods: We conducted a mixed-methods study among mothers and caregivers visiting the 10 primary health care centres in Ankpa, northcentral Nigeria in December 2024. The quantitative phase was conducted among 500 mothers/caregivers using a structured questionnaire, while 30 mothers and caregivers were interviewed for the qualitative phase. The RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) framework guided the interview and interpretation of results.

Results: Among 420 mothers and caregivers who participated in the quantitative phase, the mean age was 28.6±6.1 years. The majority [62% (n=254)], resided in rural

areas, and 55% (n=225) had attained secondary education. Willingness to use POC EID services was reported by 357 (85%) participants. Identified barriers to use included cost (n=164; 40%), fear of stigma (n=90; 22%), and lack of support from healthcare workers (n=74; 18%).
Higher maternal education (aOR: 2.7; 95% CI: 1.8–4.2), urban residence (aOR: 1.9; 95% CI: 1.2–2.8), and prior antenatal counseling (aOR: 3.1; 95% CI: 2.0–4.8) were predictors of the willingness to use POC EID services.
Strong preference for community-based health intervention was the major theme raised during the focused group discussion held.
Conclusions: Mothers and caregivers in the Nigerian community are receptive to POC EID, although certain challenges would have to be overcome. Expanding antenatal counselling, community-based awareness and involvement of communities in cocreating and implementing supportive strategies will improve the uptake of POC EID among the mothers and caregivers.

EP0390

Awareness of drug supply changes and uptake of fentanyl testing services among people who use drugs enrolled in a PrEP program in Kampala, Uganda

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Background: Fentanyl is a synthetic opioid that can be added to the drug supply, emerging as a cheaper yet more potent alternative to heroin. We evaluated the implementation of a drug checking service (lateral flow test strips) to test for the presence of fentanyl among drug samples obtained from people who use drugs (PWUD) engaged in harm reduction programs in Uganda.
Methods: From November 2023 through December 2024, we embedded questions about drug supply characteristics into our existing cohort of PWUD in Kampala, Uganda, whose access to PrEP was integrated into a community-based syringe access program or facility-based opioid treatment program. Fentanyl testing was offered to participants returning for clinic visits, which included obtaining drug samples or residue for analysis on-site with Dance Safe test strips. We used modified Poisson regression models to calculate prevalence ratios (PR) and their 95% confidence intervals (CI) to examine factors associated with the uptake of fentanyl testing strips.
Results: This nested study of 110 PWUD had a median age of 29 (interquartile range of 25-35) and were largely (85%) assigned male sex at birth. The majority had injected drugs (88%) or used heroin/street opioids (74%) in their lifetime. Twenty-six percent had previously heard of fentanyl and 8% had ever knowingly used fentanyl. Among 78 PWUD offered fentanyl testing, 63 (81%) people provided samples, 46% of samples were believed to be cocaine, 40% were heroin/street opioids, and 99% of tests were negative. Among the 63 people returning for fentanyl, concurrent services they accessed included obtaining PrEP (89%), HIV testing (83%), drug use equipment (44%), and condoms (41%). Clients of the syringe access program compared to those in the opioid treatment program (PR=1.96, CI=1.35-2.84) and those with better transportation access (PR=1.41, CI=1.08-1.85) were more likely to uptake fentanyl testing services.
Conclusions: Fentanyl was largely absent from the drugs tested in this sample. However, given the high interest in this testing and uptake alongside other key harm reduction services, the expansion of drug checking services for PWUD in Uganda could be considered an overdose prevention strategy, particularly if testing is accessible and comprehensive for other emerging substances.

EP0391

Evaluating the potential of Lenacapavir and Doxy-PEP as a game-changer in HIV and Sexually Transmitted Infections prevention for female sex workers in Abuja, Nigeria

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Background: High-risk populations like female sex workers in Nigeria face a dual burden of HIV and sexually transmitted infections (STI), necessitating innovative prevention strategies. Lenacapavir, a long-acting HIV pre-exposure prophylaxis, and Doxycycline Post-Exposure Prophylaxis (Doxy-PEP) hold promise as transformative tools in reducing transmission in high risk populations.
This study assessed the knowledge, attitudes, perceptions, preferences for service delivery, barriers to use on the co-administration of Doxy-PEP and lenacapavir intervention among female sex workers.
Methods: This study adopted a cross-sectional design to obtain responses from 122 randomly sampled female sex workers in Abuja, Nigeria using a validated 29-item questionnaire in January 2025. Their knowledge, attitudes, perceptions, preferences for service delivery, barriers to use were assessed.
Descriptive and inferential analysis were used to summarize the study's findings. Ethical approval was obtained from the Institutional Review Board.
Results: A total of 114 female sex workers responded to the questionnaire (93% response rate) with 51(44.7%), being unmarried and 56(49.1%), have been sex workers for 1-5 years. Also, 72(63.2%) and 78 (68.4%) have not heard of lenacapavir and Doxy-PEP respectively. Among the 42 participants that they had earlier heard of lenacapavir,

32 (76.2%) were willing to use it ($p < 0.001$). Just over half, 58(50.9%) are willing to use lenacapavir if available. The majority, 87(76.3%) do not believe these medications can improve HIV and STI prevention outcomes with 86(75.4%) concerned about potential side effects. A total of 75(65.8%) prefer long-acting injectables for prevention with 60(52.6%) citing effectiveness as the most important factor when deciding to use a new prevention method.

Conclusions: There is a huge gap in awareness of Lenacapavir and Doxy-PEP among high-risk populations, particularly female sex workers. Despite concerns over side effects, there is a clear preference for long-acting injectable methods emphasizing the need for more research to be conducted in this population and tailored educational and outreach programs to address misconceptions and increase knowledge of these innovative prevention options.

EP0392

Community-pharmacy HIV prevention research among adolescent girls and young women in Uganda: recruitment challenges, lessons learned, and strategies applied

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Background: Adolescent girls and young women (AGYW) in sub-Saharan Africa have a high incidence of unintended pregnancies, HIV, and other sexually transmitted infections. Although pre-exposure prophylaxis (PrEP) and HIV self-testing (HIVST) are available, there remains an underutilized opportunity to expand HIV prevention delivery through community pharmacies where AGYW readily access emergency contraception (EC).

By leveraging the existing reach of community-pharmacies, we highlight recruitment challenges faced and lessons learned.

Methods: From May to December 2022, we mapped community pharmacies within 45 km of our research clinic in Kasangati, a peri-urban area in Kampala to assess the willingness, readiness, and feasibility of integrating PrEP delivery with EC services. Pharmacy providers were encouraged to identify and refer AGYW to our research clinic for study screening when they sought EC services.

Additionally, we documented challenges faced during the recruitment of AGYW at these community pharmacies for HIV prevention research.

Results: Ten of 15 community pharmacies participated, referring 162 AGYW for screening; 130 were enrolled. Reasons for ineligibility (N=32) were exceeding age limit (10), uninterested (9), not using EC (7), and lacking time (6).

Recruitment challenges included (a) obtaining contact information from AGYW who obtained EC without further interaction; (b) provider reluctance to disclose AGYW use of EC; (c) research assistants facing difficulties in physically reaching certain pharmacies, which limited outreach efforts; (d) incorrect contact information for AGYW that hindered follow-up activities; (e) cultural barriers that inhibited provider-AGYW discussions about sexual behaviors; (f) disinterest or lack of time to participate; and (g) exceeding age limit.

To tackle these challenges, we implemented several strategies: strengthening communication and building rapport with pharmacy providers to improve comfort and accuracy in referrals; focusing weekend outreach efforts to better accommodate AGYW, who often face difficulties during weekdays; and developing targeted communication approaches to alleviate the cultural discomfort and hesitancy expressed by AGYW when discussing sexual health.

Conclusions: Tailored engagement strategies and adaptability are key to addressing AGYW recruitment barriers at community pharmacies. Lessons learned highlight the need for holistic, culturally sensitive, and collaborative approaches to maximize participation and effectiveness in similar settings.

EP0393

Prevalence and risk factors of rifampicin resistance among TB-HIV patients in Rwanda: estimates from programmatic surveillance data (2019-2024)

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Background: Tuberculosis (TB) is the major cause of death among people living with human immunodeficiency virus (PLHIV). Rwanda's integration of HIV and TB services through one-stop clinics allowed enhanced treatment delivery as well as accurate diagnostics like Xpert MTB/RIF for early TB detection including its susceptibility to rifampicin, the core first-line anti-TB drug. However, the epidemiology and determinants of rifampicin-resistant TB

(RR-TB) among PLHIV remain insufficiently studied. Understanding these patterns and associated risk factors is essential for policy development and improving TB control strategies, ultimately enabling targeted interventions to reduce drug-resistant TB burden in this vulnerable population.

Methods: A retrospective analysis was conducted on routine surveillance data from pulmonary bacteriologically confirmed TB patients co-infected with HIV notified into TB case surveillance system from July 2019 to June 2024. It included demographic and clinical variables, utilizing descriptive statistics and logistic regression to evaluate factors associated with RR-TB among TB patients co-infected with HIV.

Results: Among 3,610 pulmonary TB patients co-infected with HIV who underwent rifampicin susceptibility testing, 60 (1.66%) were found to have RR-TB. The RR-TB prevalence was at 1.21% among new and 4.19% in previously treated TB cases. From 2019 to 2024, the proportion of RR-TB cases remained relatively stable, ranging from 1.0% to 1.4% and 3.4% to 4.1% among new cases and previously treated patients respectively.

Patients with a previously known HIV history at the time of TB diagnosis had a significantly higher risk of RR-TB compared to those newly tested positive for HIV (aOR 2.05, 95% CI [1.03-4.09], P=0.04).

Contacts of individuals with multidrug-resistant TB (MDR-TB) had a substantially elevated risk of developing RR-TB (aOR 117.22, 95% CI [15.82-868.64], P<0.001) compared to those without such history. Working in the mining sector exhibiting a higher likelihood of having RR-TB (aOR 4.31, 95% CI [1.22-15.28], P=0.023) compared to those in other occupations.

Conclusions: The prevalence of RR-TB among HIV coinfected pulmonary TB patients had been constant and relatively remained low over time. Known HIV status, MDR-TB contacts, and working in mining sector were the significant risk factors. These underscore the need for targeted prevention and management strategies for such vulnerable populations.

EP0394

Early NCD screening and diagnosis at Marindi SCH-Homabay County among people living with HIV at Marindi Sub County Hospital in Homabay County, Kenya

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Background: Non Communicable Diseases (NCDs) are of increasing concern globally due to their high mortality rates. Globally NCDs account for 41 million deaths annually; this is equivalent to 74% of deaths globally according to WHO 2018 statistics, 86% of these mortalities are due to late diagnosis of the diseases. At marindi sch, the whole of 2021 we were able to diagnose a total of 206 clients with NCD; 38 were PLHIV diagnosed within the CCC. The 94 clients were cases who presented with obvious symptoms of the mentioned NCDs. This occasioned screening order to reduce mortalities associated with late diagnosis.

Methods: Following the performance NCDs performance review meeting, the following gaps we identified ;Lack of a standardized tool for screening of the five key NCDs prioritized; Inadequate knowledge for clinicians to screen and diagnose the NCDs early

The facility together with the supporting partner developed an NCD screening tool for use in all service delivery points. The clients who screened positive were referred for further evaluation and or diagnostic investigations. The clinical team was also capacity built through CMEs and OJT to screen and diagnose NCDs.

Results: From 2019 to 2023, Marindi Sub-County Hospital maintained a stable annual workload of 12,900 individuals. NCD screening increased from 112 in 2019 to 6,201 in 2023. Similarly, diagnoses with NCDs and initiation of treatment rose from none in 2019 to 105 in 2023, peaking at 212 in 2021. NCD-related mortalities declined significantly from 12 in 2019 to zero in both 2022 and 2023, indicating improved care and outcomes. NCD and HIV co-diagnoses also increased, with no cases in 2019 or 2020, 12 cases annually in 2021 and 2022, and 26 in 2023.

Conclusions: A standardized screening tool for NCDS needs to be used in all facilities to ensure early diagnosis. This tool can also be incorporated in the Kenya EMR for routine screening of all PLHIVs of common NCDs like hypertension and diabetes; NCDs management should be integrated into CCC for better and improved outcomes.

EP0395

Introducing the screen, triage and treat with HPV DNA Testing for cervical cancer screening among women living with HIV: lessons learned from Zimbabwe, 2024

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Background: In Zimbabwe cervical cancer remains a leading cause of cancer-related morbidity and mortality, and women living with HIV (WLHIV) have a sixfold higher risk than their negative counterparts. The primary screening method in Zimbabwe has been Visual Inspection with Acetic Acid and Cervicography (VIAC), which allows for immediate treatment in a single visit and is referred to as "screen and treat". In 2021, the world health organization (WHO) recommended a "screen, triage, and treat" approach, using HPV DNA PCR as the primary test, followed by colposcopy, VIA, or cytology as triage procedures for those who test HPV positive. This method is more sensitive, requires less manpower, and allows for longer intervals between screenings.

Description: Since April 2024, Zimbabwe Health Interventions (ZHI) through the Accelerated and Comprehensive HIV Care for epidemic Control (ACCE) program has sup-

ported roll-out of HPV DNA PCR test as a new screening strategy in the country in 4/9 project supported districts This paper reviews the lessons learned from implementation between June and December 2024. The assessment was covered by the Medical Research Council of Zimbabwe-approved non-research determination protocol (MRCZ/E/159).

Lessons learned: Data for 5169 women on antiretroviral therapy (ART) with HPV DNA specimens collected were analyzed. About 84% (4,321/5169) received their results, of these 19% (840/4321) screened HPV DNA positive. Approximately only 65% (540/840) of clients testing HPV-DNA positive were triaged with VIAC of these 7.6% (41/540) tested VIAC positive, and 80% (33/41) received treatment for precancerous lesions. The overall positivity for VIAC in the "screen, triage, and treat" supported districts i.e., in the four districts was 7.6% against 2% (263/1498) in the five districts screen and treat with VIAC only.

Conclusions/Next steps: Scaling up HPV screening has the potential to lessen health worker workload if the leakages across the screening cascade are comprehensively addressed.

We recommend wider scale up of the HPV screening with improved support from the laboratory and community to track women who test positive for HPV, so they complete the treatment cascade.

EP0396

Factors influencing family planning discontinuation and switch among Women Living with HIV in Kenya

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Background: Women living with HIV (WLHIV) experience higher rates of unmet need for contraception, contraceptive failure and unintended/unplanned pregnancies. Understanding factors influencing family planning (FP) discontinuation and switch among WLHIV is required to optimize FP use.

Methods: We utilized baseline data from the Mobile Solutions to Empower Reproductive Life Planning for WLHIV trial In Kenya (NCT05285670). WLHIV included in this analysis were using a non-permanent modern FP method, and were not pregnant. We compared women who switched, or discontinued FP (for reasons other than pregnancy/desired pregnancy), FP within the last year to women who continued FP.

Results: Among 1962 WLHIV, the median age was 34years, median HIV duration was 8years, 89% were on Dolutegravir, 14% reported moderate-high internalized HIV-related stigma and 75% had a regular partner. The majority(89%) reported partner support of FP and 41% discussed FP with a healthcare worker(HCW). Less than half of WLHIV (41%) used long-acting, reversible FP (37% and 4% on implants and intrauterine devices respectively), 35% used injectables, 16% used condoms and 7% oral contraceptive pills (OCPs).

Overall, 2% discontinued and 7% switched FP, with 42% switching from injectables, 38% from implants, and 12% from OCPs. WLWH who switched from injectables, chose implants (54%), OCPs (20%), and condoms (19%); those that switched from implants chose injectables (61%) and OCPs (20%) and those that switched from OCPs chose implants (47%) and injectables (40%).

Compared to women who continued FP, WLHIV who jointly decided on FP with their spouse were less likely (OR:0.42; 95%CI:0.20-0.85) to discontinue FP while women in polygamous marriages were more likely (OR:2.76; 95%CI:1.24-6.11) to discontinue FP.

Women ≤24years (OR:2.47; 95%CI:1.43-4.27), with moderate-to-severe internalised HIV-related stigma (OR:1.75; 95%CI:1.09-2.80), using OCPs (OR:3.20; 95%CI:1.81-5.66), whose spouse chose their FP (OR:3.69; 95%CI:1.27-10.74) and discussed FP with a HCW (OR:2.82; 95%CI:1.86-4.27) were more likely to switch FP methods. WLHIV were less likely to switch their FP method if they initiated FP after age 23(OR:0.58; 95%CI:0.39-0.85).

Conclusions: Tailored FP strategies for adolescent girls and young WLWH, and those with high internalized stigma may promote FP method continuation and appropriate FP switch, mitigating risks for unintended/unplanned pregnancies. Involving partners in FP counseling, and continually offering FP during routine care may reduce FP discontinuation and support optimal FP method switch among WLHIV.

EP0397

Prevalence of sexually-transmitted infections and linkage-to-care rates in a Southeast Asian transgender cohort study

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Background: Transgender persons in Asia experience a disproportionate burden of HIV and sexually-transmitted infections (STIs), and their access to related healthcare services are limited. We established Asia's first prospective observational transgender cohort study to assess HIV, STI and other health risks and impacts.

Methods: Between December 2022 to October 2024, transgender persons aged ≥18 years were enrolled as they attended the Rainbow Sky Association of Thailand and Tangerine Clinic in Thailand, Glink in Vietnam, and Victoria by LoveYourself in the Philippines. Six-monthly study visits were conducted, which included HIV testing and STI screening.
Multi-compartment chlamydia (CT) and gonorrhea (NG) testing were performed using self-collected pooled specimens, and syphilis and viral hepatitis C (HCV) testing conducted using blood specimens collected at each study visit. STI treatments were documented according to each setting's standard of care. Data were analyzed using Stata.
Results: Of 415 transgender persons enrolled by October 2024, median (interquartile range, IQR) age was 28 (23-33) years, 92% (n=381) were transgender women, 7% (n=31) transgender men, and 1% (n=3) non-binary.
Overall, 29% (n=121) were living with HIV, 35% (n=145) were on PrEP, and 36% (n=149) did not use PrEP. The prevalence of any baseline STI among these was 39% (n=47), 22% (n=32), and 14% (n=21) respectively. At baseline visit, 100 (24%) had at least one STI. Prevalence of CT was 15% (n=61) NG 8% (n=33), syphilis 9% (n=36), and HCV 1% (n=3).
Linkage-to-care rate for CT was 64% (39/61), NG 52% (17/33), syphilis 50% (18/36), and HCV 67% (2/3). Median (IQR) days to treatment initiation was 0 (0-4) for CT, 3 (0-7) for NG, 2 (0-6) for syphilis, and 50.5 (29-72) for HCV.
Conclusions: STIs were prevalent among our transgender cohort, with CT most prevalent, and the prevalence of any STI highest among those with HIV. We identified gaps in STI diagnosis, linkage and treatment initiation across all settings.
Our findings highlight the need to explore and address barriers to STI diagnosis, linkage, and care for transgender communities in Southeast Asia.

EP0398

Impact of the dual HIV/syphilis rapid diagnostic tests in improving maternal syphilis testing coverage in antenatal care

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Background: Mother-to-child transmission of HIV and syphilis is a significant public health concern in sub-Saharan Africa. Evidence suggests that HIV incidence increases about two-times with syphilis exposure. Without adequate treatment, an estimated 15% of infants will acquire congenital syphilis from syphilis-exposed mothers. In Nigeria, HIV and syphilis prevalence in ANC is 1.4% and 0.7% respectively, while testing coverage for both diseases was 67% and 16% as at 2019. The very low syphilis testing rates lead to adverse pregnancy outcomes in 60% of the over 77,000 annual congenital syphilis cases.
Description: The Federal Ministry of Health is scaling up dual HIV/syphilis Rapid Diagnostic Test use following an initial pilot supported by CHAI. Across 31 health facilities in three states, a total of 1,678 healthcare workers were trained through CHAI and Ministry of Health facilitated trainings. Backed by a donation of 55,000 tests, training focused on dual RDT use, counseling, treatment, demand generation and data management.
Lessons learned: 45,413 pregnant women were tested for HIV and syphilis during the pilot. HIV and syphilis positivity rates were 2.0% and 0.2% respectively. Subsequent Dual RDT scale up between 2019 and 2022 resulted in over 10 million pregnant women being tested for HIV and syphilis cumulatively. ANC syphilis testing coverage increased from 16% in 2019 to 36% in 2022. Maternal syphilis treatment coverage is 89%.
Conclusions/Next steps: Syphilis screening has significantly and sustainably increased following dual RDT introduction in 2019. While substantial investments are still required to improve data management, the continued opportunity to leverage existing HIV delivery platforms holds promise for congenital syphilis and mother-to-child transmission of HIV elimination.

EP0399

36-months post treatment High-risk Human Papillomavirus (hr-HPV) infection and predictors, and cervical precancerous lesions prevalence among women living with HIV in West Africa

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Background: Although mounting evidence of the good performance of HPV-based screen and treat approach to identify women with cervical lesion and treatment with thermal ablation approach exist, more data is required on the long-term outcomes especially among women living with HIV (WLHIV) who are at increased risk of recurrence. We aimed to estimate the high-risk human Papillomaviruses (hr-HPV) infection and predictors among WLHIV; as well as precancerous lesions prevalence at 36-months following a treatment in West Africa.

Methods: From October 2019 to October 2024, a cohort study was conducted among WLHIV in specialized clinics in Bobo-Dioulasso (Burkina Faso) and Abidjan (Cote d'Ivoire).
All WLHIV with a positive HPV test who received thermal ablation were followed up at 12 and 36-months. During the follow-up visits, gynecological examination, including DNA HPV testing, visual inspection and biopsy were done. Hr-HPV persistence/recurrence was defined as having at least one hr-HPV type (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 and 68), while precancerous lesions prevalence was defined as having had a cervical intraepithelial neoplasia grade 2 or higher (CIN2+) result after a colposcopy-directed biopsy at 36-months.
Results: A total of 200 WLHIV, aged 42 years [Interquartile range (IQR): 38–45], with a Nadir CD4 of 214 [IQR: 109 – 325] cell/mm3 were treated with thermal ablation and followed up. Positive hr-HPV was retrieved for 55.2%, 39.5% at 12 and 36-months post treatment, respectively. WLHIV who had a CD4 count<200 cell/mm^3 around treatment (aOR= 3.48 [CI 95%: 1.28–9.46]) or having no or a primary school level (aOR= 1.93 [IC95%: 1.03 – 3.63]) were more likely to present at 36-months with HR-HPV persistent infection, compared to others.
At 36-months post-treatment, the precancerous lesions prevalence was 3.8% (n=6) among the 176 WLHIV assessed, and 8.7% (n=2) among those treated for CIN2+ at baseline, were CIN2+, respectively.
Conclusions: Post therapeutic hr-HPV infection remains high over three years in WLHIV highlighting the need of a long-term follow-up, particularly in WLHIV with advanced HIV disease. The association between education and hr-HPV deserves further studies to understand how social determinants of health mediate the risk of persisting post therapeutic hr-HPV.

EP0400

Persistently high syphilis seroprevalence among pregnant women in southern Uganda: a longitudinal population-based study

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Background: In the Lake Victoria basin of East Africa, where many pregnant women deliver outside of health facilities and HIV prevalence is high, longitudinal population-level data on syphilis seropositivity are rare, especially in the era of widespread HIV treatment. These data are essential for identifying care gaps, guiding targeted interventions, and improving maternal and neonatal health outcomes.

Methods: We analyzed data from the Rakai Community Cohort Study collected over four survey rounds (2016–2022) in Uganda. The study included adults aged 15–49 years from 37 inland agrarian and trading communities (HIV prevalence ~12%) and 4 Lake Victoria fishing communities (HIV prevalence ~40%).
The primary outcome was individual syphilis seropositivity, determined using the SD Bioline Syphilis 3.0 test. Syphilis seroprevalence was calculated as the proportion of individuals testing seropositive.
Analyses were stratified by HIV serostatus, community type (inland vs. fishing), age, and calendar time. Adjusted prevalence ratios (adjPR) were estimated using multivariable Poisson regression, adjusting for age, community type, education, marital status, life time and past year sexual partners, and HIV serostatus. Syphilis treatment was provided free to study participants.
Results: Among 3,491 pregnant women, 3,265 (93.5%) had syphilis test results across 3,592 visits. Overall seroprevalence was 10.0% (95% CI: 9.0%-11.1%), with higher prevalence in fishing communities compared to inland communities (22.3% vs. 6.7%; adjusted PR = 2.18, 95% CI:1.75–2.03) and in those with prevalent HIV infection compared to those without (24.7 vs. 7.1%;PR = 1.94, 95% CI:1.55–2.43).
Prevalence remained stable over calendar time across community types. Among girls aged 15–19 and young women aged 20–24, seroprevalence was 14.3% (95% CI:7.8%-23.2%) and 16.7% (95% CI: 11.7%-22.7%) in fishing communities, respectively, and 3.4% (95% CI: 1.8%-5.9%) and 5.4% (95% CI: 3.9%-7.3%) in inland communities, respectively. Higher syphilis burden was also significantly associated with lower education levels and more lifetime sexual partners.
Conclusions: Syphilis seropositivity remains high among pregnant women in southern Uganda, particularly in Lake Victoria fishing communities. The concurrent burden of syphilis and HIV highlights the importance of integrating syphilis testing and treatment into HIV programs and expanding targeted interventions to high-risk populations.

EP0401

Enhancing cervical cancer screening among women living with HIV through collaboration with community healthcare workers in Ncamagoro District, Kavango West Region, Namibia

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Background: Cervical cancer is a public health concern in Namibia impacted by limited access and low uptake of screening and high prevalence of HIV and Human Papillomavirus (HPV). Human Resources for Health (HRH) is crucial in addressing these issues. Engaging community healthcare workers (CHW) can increase demand for facility-based cervical cancer services through community-based education and improving screening access by reducing structural barriers.
An outreach program was conducted, employing a series of activities and engaging CHW to increase screening access and uptake among WLHIV.
Description: The Ncamagoro District in Namibia's Kavango West Region aimed to screen 425 WLHIV between October 2023 and September 2024. At baseline, in January 2024, only 10% (43) of the target had been achieved. To improve screening uptake, a series of programmatic activities were conducted between February and April 2024 in 10 health facilities, engaging both facility staff and CHWs. Activities included an orientation on cervical cancer demand creation strategies. The CHWs subsequently identified unscreened WLHIV usually served by respective health facilities.
Every facility was assigned screening targets, and mobilization of WLHIV was undertaken by the CHWs through telephonic calls and physical tracing in the community. Health education sessions were conducted, and information, education and communication (IEC) materials were distributed in the vernacular language. The cumulative number of
WLHIV screened and percentage of screening target achieved were calculated monthly using routine programmatic data and analyzed descriptively to determine improvements.
Lessons learned: Achievement of screening targets in Ncamagoro District increased from 10% (43) at baseline in January 2024 to 98% (416) in April 2024. Community mobilization ensured the WLHIV were reached and came to the facilities for screening.
While the activities led to rapid improvement, challenges were noted, including unavailability of transport and staff shortage resulting in fewer screening days undertaken.
Conclusions/Next steps: Working collaboratively and fostering teamwork with CHWs accelerated the achievement of screening targets among WLHIV in Ncamagoro District in Namibia. Scaling up community-based education campaigns and the collaborative efforts of facility teams and CHWs to align ART care services with cervical cancer screening can increase access and uptake.

EP0402

Childhood immunization uptake in children of female sex workers: a Nairobi, Kenya study

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Background: Access to immunizations is critical for achieving Sustainable Development Goal 3.8. Partners for Health and Development in Africa (PHDA) operates ten Sex Workers Outreach Program (SWOP) clinics in low-income areas of Nairobi, focusing on HIV prevention. Although SWOP clinics do not provide maternal and child health (MCH) services, clients are referred to government health centres.
This study evaluated immunization uptake among children of female sex workers (FSWs) registered at SWOP clinics. FSWs face unique challenges in accessing healthcare for their children, including routine vaccinations, conflicting with the Universal Health Coverage principle of leaving no one behind.
Methods: This eleven-month retrospective observational study combined quantitative and qualitative data sources. Interviews with participants and clinical data from MCH handbooks informed the analysis. The sample size was 378 FSWs, determined using the Cochran formula. Data was collected using Kobo Toolbox and analyzed using STATA and MS Excel, with descriptive statistics summarizing key findings.
Results: The study reported high overall immunization coverage (94.0%) among children of female sex workers (FSWs), with slight disparities noted in the Maternal Child Health (MCH) Handbook (92.48%).
Awareness of immunization importance was high (92.6%), and nearly all respondents (99.4%) acknowledged its benefits. Key enablers included proximity to health facilities (36.2%), friendlier health workers (48.2%), and home-based vaccinations (43.2%).
However, specific vaccines, such as Yellow Fever at nine months (9.1%) and MR at six months (15.0%), exhibited low uptake, alongside a general decline in adherence over time. Barriers to full immunization included sex work-related challenges (28.4%), stigma related to HIV (19.57%),

alcohol and substance use (25.4%), and operational issues; limited service hours, long queues, and insufficient staffing. Additional challenges included inconsistent vaccine availability, lack of transport, and inadequate reminders. Factors supporting uptake included widespread belief in vaccine safety (99.2%).

Conclusions: Barriers to achieving full immunization reflect a complex interplay of systemic and situational factors, including constraints related to sex work, HIV status, substance use, healthcare discrimination, and logistical challenges. Addressing these barriers requires a comprehensive, integrated approach that incorporates vaccination services within SWOP Clinics, alongside HIV prevention and care, and sexual reproductive health to create a convenient, one-stop solution for FSWs.

EP0403

Hepatitis C self-testing to expand screening, diagnosis and treatment of HCV among key populations and people living with HIV in Cameroon

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Background: Hepatitis C virus (HCV) is a significant global public health issue, with care coverage particularly low in resource-limited settings. In Africa, only 13% of people with HCV knew their status in 2022, primarily due to limited access and low awareness. HCV self-testing (HCVST) provides a pathway for individuals to learn their status, facilitating access to treatment and prevention.

This study assessed the acceptability and feasibility of HCVST among key populations in Cameroon.

Methods: From June 2023 to March 2024, consenting adults (≥21 years) were recruited through four service delivery models:

1. People living with HIV (PLHIV) at antiretroviral therapy clinics (ARTC),

2 Men who have sex with men (MSM),

3 People who inject drugs (PWID) at drop-in centers (DIC), and;

4 Individuals ≥45 years at chronic disease clinics (CDC).

Participants were randomly assigned blood-based or oral-fluid HCV self-test kits, with the option for on-site or off-site self-testing. Participants reported results and were linked to confirmatory testing and treatment with direct-acting antivirals (DAAs). Feasibility, acceptability, HCV prevalence, and linkage to care were analyzed using descriptive statistics

Results: Of 2,653 clients offered HCVST, 99.7% (n=2,644) accepted. Among those completing self-testing (ARTC: 596; CDC: 648; MSM-DIC: 702; PWID-DIC: 698), 2.3% chose off-site testing, highest at ARTC (5.0%, p<0.001). Most (91.7%) found the test easy to use, citing rapid results (60.4%), simplicity (45.8%), and confidentiality (23.1%). Nearly all (98.7%) recommended HCVST, with 45.9% favoring unassisted home testing. Overall HCV seroprevalence was 4.4%, higher at PWID-DIC (12.2%) than ARTC (3.0%, p<0.001). Of 117 positive screenings, 93.2% (n=109) were linked to confirmatory testing. At ARTC, linkage was 88.9% (n=16/18), with 76.9% (n=10/13) viremic cases initiating therapy. At three months, all tested (n=9) achieved undetectable viral loads.

Conclusions: HCVST is highly acceptable, feasible, and user-friendly among diverse populations in Cameroon, increasing HCV testing uptake and care engagement. These findings support the integration of HCVST into broader HCV strategies, particularly in high-burden, resource-limited settings

EP0404

Syphilis reinfection in Argentina: a new challenge for Argentine public health in the context of U=U

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Background: In order to ascertain the frequency of syphilis reinfection in a context of increasing incidence of syphilis in Argentina, we conducted this study in two community-led clinics that focus on sexual health.

Methods: All syphilis diagnoses were obtained from January 1, 2023, to December 31, 2024, from a Community Sexual Health Center in the city of Rosario and from a Community Sexual Health Center in the city of Buenos Aires.

All patients had a positive result to the Bioline® HIV/Syphilis DUO or Determine® Syphilis TP test at the point of care (PoC), and their diagnosis was confirmed by VDRL

Results: The following results were obtained in 2023, there were 125 syphilis diagnoses, with 5 (4%) cases involving individuals who had been re-infected and all of them were people living with HIV. In 2024, there were 508 syphilis diagnoses, with 64 (13%) cases involving individuals who had been re-infected and 57% of them were people living with HIV.

The majority of affected individuals were between the ages of 30 and 39 (60% in 2023 compared to 38% in 2024), and the male-to-female ratio was 100% in 2023 and 89% in 2024.

Conclusions: The increase in new syphilis diagnoses is a public health concern in Argentina, and re-infection is also a significant public health issue. As evidenced by the data, there is a high prevalence of HIV/syphilis co-infection, which, within the framework of the Undetectable=Untransmissible (U=U) concept, serves to compound the challenges confronting healthcare providers.

This study underscores the necessity for augmented efforts in the primary and secondary prevention of syphilis to effectively manage this pandemic.

Population-specific interventions for HIV prevention

EP0405

Utility of pre-exposure prophylaxis in averting postnatal seroconversion among infants born from breastfeeding mothers testing HIV negative at delivery in four facilities of Eastern province of Zambia

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Background: In Zambia, HIV negative pregnant and breastfeeding women require routine HIV retesting as part of elimination of mother-to-child transmission (EMTCT). Pregnant women attending antenatal are re-tested during these visits. After delivery, however, postnatal mothers often elude HIV retesting. In such settings, maternal postpartum HIV acquisition contributes to a significant proportion of infants with HIV. Pre-exposure prophylaxis (PrEP) is a safe and effective prevention strategy to reduce women's risk of HIV in pregnancy and postpartum. We will describe and assess the utility of PrEP in averting seroconversion among infants born from breastfeeding mothers testing HIV negative at delivery in Eastern Province, Zambia.
Methods: This retrospective review utilized 2021 program data from SmartCare. The data included counts of HIV negative breastfeeding women (BFW) which we categorized into two subgroups: those receiving PrEP and those not receiving PrEP.
Descriptive statistics were used to summarize the demographic characteristics of the BFW and the mother-infant HIV status outcomes at 24 months postnatal. Chi-square test was employed to assess differences in the mother-infant HIV status outcomes between the two subgroups. Statistical significance was set at $p<0.05$.
Results: In December 2021, 261 (27%) BFW were receiving PrEP, while 704 (73%) were not. Among the PrEP cohort, 95% had status outcomes, of which 98.8% were negative. All children (100%) from the 2 BFW who seroconverted remained HIV negative. From the no PrEP cohort, 86% had documented outcomes. 4% (24) had a seropositive outcome, of whom 21% had a concordant maternal-infant serostatus. Maternal seroconversion was significantly lower among the PrEP cohort at 0.8%, compared to those not on PrEP (4%) ($p< 0.001$).
Similarly, infant seroconversion was not observed in the infants of seroconverted mothers from the PrEP cohort, but was significant (21%) among infants from mothers who seroconverted and not receiving PrEP ($p< 0.001$).
Conclusions: Though only 27% of PBW during the review period were receiving PrEP, this analysis shows low postnatal maternal incident HIV and vertical transmission outcomes. In contrast, unfavourable HIV serostatus outcomes persisted among BFW not receiving PrEP and their infants. These findings underscore the critical role of PrEP services in complementing other interventions to optimize EMTCT efforts.

EP0406

Improving engagement in HIV prevention services among immigrant communities in the U.S.

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Background: Immigrants in the United States are disproportionately impacted by HIV yet are less likely to use pre-exposure prophylaxis (PrEP). We conducted a series of focused educational initiatives aimed at increasing awareness of and interest in HIV prevention resources among immigrants.
Methods: We designed an evidence-based workshop on culturally competent HIV prevention care, which was delivered to healthcare professionals (HCPs) at 4 federally-qualified health centers (FQHCs) and staff at 2 community-based organizations (CBOs) from March-September 2024. Staff from the FQHCs and CBOs then delivered 3 community education sessions (CES) and 3 micro-learning engagements (MLEs; e.g., pamphlet distribution and short discussions about sexual wellness and HIV within health fairs) on HIV awareness and prevention for local immigrant communities, in both English and Spanish. Participants completed pre/post-activity surveys which were analyzed using descriptive statistics.
Results: 129 people participated in the CES (N=46) or MLEs (N=83) (85% Hispanic/Latinx; 31% Mexican; 60% non-U.S. born), including 22 reporting a prior HIV diagnosis. The proportion of CES participants with negative HIV status who felt they were very likely to be exposed to HIV in the next 6 months increased from 8% to 53% ($p = .001$) and those reporting they were very likely to get tested for HIV in the next 30 days increased from 49% to 88% ($p = .006$). When asked about barriers to HIV testing, fear of judgement by medical staff was most commonly selected by community members (48%) but was perceived as a barrier by only 17% of HCPs and CBO leaders.
Community members' interest in taking PrEP increased from 63% to 94% ($p = 0.038$) following the CES. In surveys from the MLE, 79% agreed that they knew where to go for testing and 58% felt informed/very informed about local resources, such as legal aid and English classes.
Conclusions: Community-focused, brief education sessions effectively reached immigrant communities, improving perception of risk, likelihood of future HIV testing, and interest in PrEP, while also uncovering discordant views on HCP stigma as a barrier to HIV testing.

EP0407

Perceptions on HIV related services among male overseas employment seekers at state-run pre-departure training centres in Colombo, Sri Lanka

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Background: Even though Sri Lanka has low-level HIV epidemic, a notable proportion of People Living with HIV (PLHIV) report external migration with male preponderance. The majority of external migrant workers from the country have been male since 2015. To address STI/HIV related vulnerabilities, a sexual health / HIV module has been introduced into their pre-departure training program carried out by SrLanka Bureau of Foreign Employment (SLBFE) .
This study aimed to explore the perceptions on pre-departure services related to HIV among male overseas employment seekers at pre-departure training centres in Colombo.
Methods: This descriptive cross-sectional study was conducted among 432 male foreign employment seekers at the main SLBFE training center, Sri Lanka using an interviewer-administered questionnaire assessing their perceptions regarding HIV related pre- departure services Including the training on sexual health/HIIV . Data were analysed for measures of central tendency and dispersion associations were calculated using chi-squared testing.
Results: The majority were never-married young men (mean age 27.86, SD-7.38) heading for Middle Eastern countries (70.0%).
All had attended the module on HIV and 24.1% expressed that their main source of HIV information was the pre-employment training.
Only 83(19.2%) had undergone HIV testing and only 201 (46.6%) claimed that they were aware of a HIV test service provider in their locality. The majority strongly felt the importance of carrying out the HIV training module in training programme (64.5%) and arranging free Pre-departure HIV-screening (59.4%).
Attendees strongly agreed that the session on sexual health increased their knowledge of HIV (n=210, 53.0%) and STDs (n=200, 50.5%).
Participants' suggestions for improving the sexual health module included increasing the content (n=40), allocating more time (n=20) and having more audio-visual content.
Conclusions: The participants trusted the conventional methods of STD /HIV knowledge to be the best source of information.
Most of the attendees of the HIV/sexual health module in the training programme felt that it increased their knowledge of HIV (53.0%) and STD (50.5%) and they requested more time and content with better multimedia content.
It is recommended to strengthen the sexual health module in the pre-departure training and develop free access to HIV and STI testing.

EP0409

Improving the uptake of antiretroviral prophylaxis for HIV exposed infants in Kubwa General Hospital, Nigeria: a continuous quality improvement project

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Background: The Nigerian National HIV/AIDS Treatment Guidelines recommends Antiretroviral Prophylaxis for HIV Exposed Infants(HEI) using Nevirapine and/or Zidovudine commenced within 72 hours after birth, a critical way of eliminating Mother-to-Child Transmission of HIV. Despite the high burden of HIV in Africa, gaps exist in paediatric HIV case-finding, whose primary mode of acquisition is through vertical transmission from mother-to-child.
A quality improvement (QI) collaborative was initiated to improve the percentage of HEIs initiated on ARV prophylaxis within 72 hours from 93% to 100% in Kubwa General Hospital from January to June 2024.
This study aims to investigate the impact of targeted QI interventions on HEI ARV prophylaxis initiation rates.
Methods: In January 2024, maternal cohort data were analyzed for HIV testing rates, HEI ARV prophylaxis commencement and positivity rates and root causes identified such as, Mentor Mothers were unaware the women had given birth, occasional stockout of HIV test kits in the labour ward, and unavailability of Nevirapine and Zidovudine in the labour and postnatal wards were analyzed using a fishbone diagram. Site-specific interventions were developed and prioritized through a counter-measures matrix and implemented using Plan-Do-Study-Act cycle. Interventions included weekly calls by the mentor mothers to the registered Antenatal women Living with HIV from 36 weeks gestation to delivery, ensuring availability of HIV test kits in the labour ward, and a bottle of Nevirapine and Zidovudine in the labour/postnatal wards.
Results: Pre-CQI intervention data from the maternal cohort register showed 93% of ARV prophylaxis uptake within 72 hours from July-December 2023, which increased to 100% at June 2024. All 17(100%) women in antenatal care were called weekly till they gave birth. No stockout of HIV test kits, Nevirapine, and Zidovudine were recorded in the labour and postnatal wards. A total of 32(100%) HIV exposed infants were born during this period and received timely ARV prophylaxis.
Conclusions: The QIC interventions addressing maternal follow-up and ARV accessibility yielded promising results in HEI ARV prophylaxis management, highlighting the importance of addressing facility specific challenges using a CQI approach.

EP0410

"Do people who inject drugs exist in Malawi?": a study to inform the National AIDS Commission's response

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Background: The government of Malawi has continued implementation of programs to address the HIV epidemic among at-risk populations and their social networks. However, data on injecting drug use in Malawi are limited, making it challenging for the National AIDS Commission (NAC) to incorporate people who inject drugs (PWID) into its HIV strategies.

As the NAC considered the potential inclusion of PWID, and with funding through the Meeting Targets and Maintaining Epidemic Control (EpiC) project, the NAC commissioned a study aimed at investigating the presence of PWID and their social networks in the districts of Lilongwe, Blantyre, Mangochi, Machinga, Zomba, Phalombe, Balaka, and Mzuzu.

Methods: From May through August 2021, EpiC conducted an exploratory qualitative assessment and characterized PWID congregation, type of drugs used, and nature and extent of drug use. The seed study participants were identified by a PWID representative from Centre for KP Rights serving PWID, with additional participants identified through snowballing.

The study team purposively selected and obtained views on drug injecting practices from individuals of different KP typologies, uniformed officers, health care workers, university students, youth, and religious leaders.

We conducted 18 focus group discussions and 72 in-depth interviews with PWID who consented to participate and corroborated their responses on various themes with gatekeepers. NVivo12 was used to analyze the data thematically.

Results: The assessment registered 11,120 PWID reported in the seven districts and revealed a growing culture of injecting drug use across all strata of society, with a decrease in initiation age of drug use. Drug use was reported as prevalent among girls and school-going youths.

Needle sharing was common among people reporting illicit drug injection, a practice increasing risk of HIV acquisition. Opioids were the most frequently reported injecting drug used. Home practices such as improvisation of drugs to feed an addiction were also reported.

Conclusions: Our findings informed government policy on including PWID in the HIV response and establishing the PWID National Steering Committee to oversee the introduction of the PWID program in Malawi. Findings were also used for planning a PWID national size estimation exercise in Malawi.

EP0411

Awareness of pre-exposure prophylaxis for HIV prevention among men who have sex with men (MSM) in Rwanda

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Background: HIV remains a global public health concern, and pre-exposure prophylaxis (PrEP) is an effective prevention strategy for populations at high risk, including men who have sex with men (MSM). Rwanda incorporated PrEP into its national HIV prevention guidelines in 2018. However, data on PrEP awareness among MSM in Rwanda remain scarce.

This study examined factors associated with PrEP awareness among MSM in Rwanda.

Methods: This study involved secondary data analysis from a cross-sectional Bio-Behavioral Surveillance (BBS) survey conducted in 2024 using respondent-driven sampling (RDS). Descriptive statistics assessed PrEP awareness proportions.

Logistic regression models were used for bivariate and multivariate analysis to identify predictors. Adjusted odds ratios (AOR) with 95% confidence intervals (CI) were calculated, and statistical significance was set at $p<0.05$

Results: We analyzed data of 3757 MSM and of them with nearly a half (48.1%) aged 18 to 24 years ,the proportion of MSM aware of PrEP was 48.57% (95% CI: 45.76–51.39). Regional disparities revealed significantly higher awareness in the North (aOR: 2.66; 95% CI: 1.80 – 3.94) and South (aOR: 1.45; 95% CI: 1.07–1.97) compared to the East.

Sex workers (aOR: 29.29; 95% CI: 6.25–137.29) and self-employed individuals (aOR: 3.37; 95% CI: 1.53–7.42) demonstrated the highest likelihood of awareness compared to agro-farmers and other occupations, such as merchants (aOR: 2.87; 95% CI: 1.47 - 5.60) and carpenters (aOR: 2.42; 95% CI:1.06 - 5.50), were also significantly associated. Of the behavioral factors included only condom use during sex (aOR: 1.34; 95% CI: 1.04 – 1.72)

Similarly, as social factors, higher likely likelihood was also among those who heard or received messages about HIV/AIDS in the last six months (aOR: 2.75; 95% CI: 2.12–3.57). Interestingly, loss of respect in the community did not affect participants' awareness on PrEP, instead it was associated with higher likelihood (aOR: 1.59; 95% CI: 1.15–2.18).

Conclusions: Nearly half of MSM in Rwanda are aware of PrEP, with awareness influenced by regional behavioral, and social factors. Targeted interventions addressing regional disparities are essential for improving PrEP awareness and utilization among MSM. Strengthened outreach and educational campaigns can enhance HIV prevention efforts.

EP0412

"Hello! I'm Your Personal Health Guide!" Results of a randomized controlled trial demonstrating efficacy of a talking relational agent-based mobile phone application on ART adherence

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Background: We iteratively developed My Personal Health Guide, an innovative, theory-driven mobile phone application, featuring a relational agent designed to motivate and facilitate adherence-related behavioral skills among young African American men who have sex with men (AAMSM). The talking realistic avatar also educates to improve health literacy.

We performed a randomized controlled trial to determine 6-month efficacy on improving antiretroviral therapy (ART) adherence among AAMSM living with HIV. We hypothesized that those randomized to My Personal Health Guide would have greater odds of achieving ≥80% adherence compared to the controls.

Methods: AAMSM ages 18-34 years with non-optimal ART adherence were recruited throughout the United States and randomized 1:1 (intervention: control). ART adherence was measured at baseline and monthly for 6 months by self-report.

Generalized estimating equations using backward model selection were used to evaluate the efficacy of My Personal Health Guide on achieving ≥80% ART adherence over time, after adjusting for demographic characteristics. Interactions between time and group were assessed. An α of 0.05 was used for all analyses.

Results: Between February 2020 and September 2023, 253 AAMSM were randomized (124 intervention: 129 control). Three-quarters (73.5%) completed the 6-month follow-up (99 intervention: 87 control). The odds of achieving ≥80% adherence was greatest at months 1 (OR 2.14; 95%CI 1.17-3.89) and 4 (OR 2.19; 95%CI 1.10-4.35) post-randomization. The interaction between time and group effect was not significant, indicating the group difference in the probability of achieving ≥80% adherence did not change over time.

However, a significant group effect (p-value=0.014) indicated that those randomized to My Personal Health Guide were 1.54 (95%CI 1.25-12.50) times more likely to achieve ≥80% adherence throughout the study duration. Residing in the South, Hispanic ethnicity, and higher HIV treatment adherence self-efficacy were also associated with increased odds of achieving ≥80% adherence.

Conclusions: This is the first study to demonstrate that a relational agent-based behavioral intervention can improve medication adherence, providing evidence of long-term efficacy among young AAMSM.

We recommend further research of this approach to medication adherence, especially among populations with poor health literacy.

EP0413

PrEP persistence among a cohort of female sex workers in Argentina

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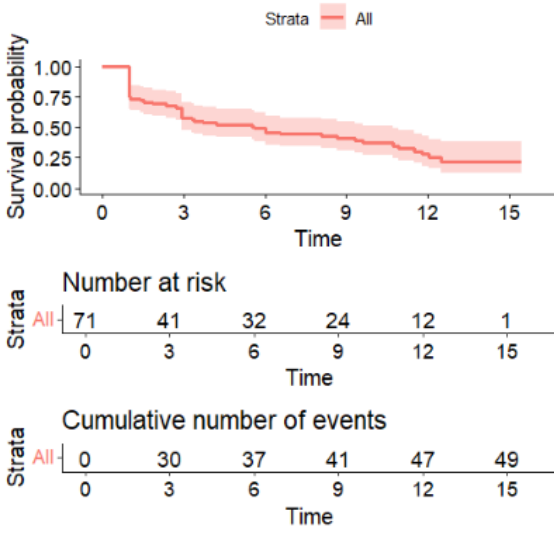
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Background: Oral PrEP was implemented in Argentina in 2021. Female sex workers (FSW) face substantial barriers to accessing HIV prevention services, including PrEP. We aimed to assess the PrEP persistence and associated factors among FSW.

Methods: "MAS por Nosotras" is a prospective cohort of FSW, conducted at an NGO in Argentina where PrEP was offered. PrEP persistence was defined as the time to first-PrEP-discontinuation. Persistence probabilities were estimated through Kaplan-Meier curves for participants starting PrEP at-or-after study enrolment.

Factors associated with PrEP discontinuation were analyzed using logistic regression models (covariates: gender, age, education, residence, nationality, drug use during last year, prior sexually transmitted infections (STIs), knowledge and prior use of PEP and PrEP).

Results: Between June 2023-March 2024, the cohort enrolled 200 FSWs: 101 cisgender women (CGW), 99 transgender women (TGW), 37 with HIV (34 TGW/ 3 CGW). Of the 163 without HIV, 19 were already on PrEP. Of 71 who initiated PrEP (42 CGW, 29 TGW); median age was 35 (IQR: 27-43); 37% had prior STIs; 68% had used substances in previous year; 23% knew about post-exposure prophylaxis (PEP) and 6% had previously used it, while for PrEP it was 34% and 4%, respectively. Median follow-up time was 4.3 months (IQR:1-10.5); 22 (31%) persisted on PrEP (Figure 1).



In the bivariate analysis, CGW had higher risk of PrEP discontinuation than TGW [HR=1.26 (1.02-1.57, p=0.04)]. When controlled for covariates, probability of PrEP discontinuation was higher among those who used substances (OR: 1.59, p=0.01) and those who knew about PEP (OR:1.49, p=0.03).

Conclusions: Persistence on PrEP was low among FSWs. Substance use and previous knowledge of PEP were associated with PrEP discontinuation. Further research to improve PrEP persistence among FSWs, with a gender-focus-approach, as part of a comprehensive HIV prevention package is warranted.

EP0414

Acceptability and willingness to pay for different HIV pre-exposure prophylaxis strategies, among women attending antenatal clinic in a University Medical Center in Zaria, Kaduna State Nigeria

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Background: Despite global efforts to reduce HIV transmission, women, especially pregnant women, are at a higher risk of HIV acquisition due to both biological and behavioral changes during pregnancy. Pre-exposure prophylaxis (PrEP) strategies, such as Oral PrEP (Truvada), Dapivirine Vaginal Ring [DPV-VR], and Long-acting Cabotegravir Injection (CAB-LA), have been identified as effective measures in preventing HIV transmission.

Methods: This study adopted a cross-sectional, non-interventional design to obtain responses from 105 pregnant women at a University Medical Center in Zaria Nigeria in 2024. A validated questionnaire was adopted and distributed to participants, assessing demographic characteristics, HIV testing status, willingness to use PrEP, and WTP for three PrEP options, namely Oral PrEP (Truveda), DPV-VR and CAB-LA. Data were summarized using descriptive statistics, while relationships between socio-demographic factors and WTP were assessed using chi-square tests. P< 0.05 was considered statistically significant. Ethical approval was obtained from the Institutional Review Board of the University Research and Ethics Committee.

Results: A total of 105 responses were obtained for the study. Majority of respondents were aged between 18 and 29 years (n=82, 78%) with (n=32, 30.5%) having Post-graduate education.

More than half of the respondents (n=73, 69.5%) knew their HIV status. In addition, 44(41.9%) were willing to pay for Oral PrEP, 19(18.1%) for the DPV-VR, and37 (35.2%) for the CAB-LA.

The maximum WTP was N30,000 for Oral PrEP and the DPV-VR, and up to N5,500,000 for CAB-LA. A significant portion 101 (96.2%) preferred government provision of PrEP, indicating limited personal financial commitment.

The most common reasons for PrEP choice included its convenience 19.4%, perceived effectiveness, ease of use (14.2%), and cost (7.7%).

The highest WTP association was observed among those with postgraduate qualifications (P=0.004) and marital status (P=0.015).

Conclusions: The study reveals a low-moderate acceptance of PrEP options among pregnant women, with a preference for cost-effective government-provided PrEP services. Those that were willing to pay indicated price below the market prices for the commodities. Educating the public especially women on the benefit of PrEP, alongside subsidized government provision, may enhance uptake and adherence, ultimately reducing HIV transmission among high-risk groups.

EP0415

Community-based pre-exposure prophylaxis (PrEP) delivery accelerates PrEP uptake among priority populations in Cambodia

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Background: Cambodia is committed to eliminating new HIV infections and achieving the 95-95-95 targets by 2025. HIV infection remains concentrated among priority populations (PPs), accounting for 70% of new HIV infections in 2023. Given the recognized effectiveness of pre-exposure prophylaxis (PrEP) in reducing new infections among PPs, the National Center for HIV/AIDS, Dermatology and Sexually Transmitted Diseases (NCHADS), supported by EpiC project, introduced PrEP at health facilities in 2019 and community-based drop-in-centers (DICs) in 2022. DIC-based PrEP delivery offers a safe, non-judgmental environment, convenient hours of operation, peer support, and confidentiality, all appealing to PPs.

Description: National PrEP guidelines and standard operating procedures were modified to include community-based PrEP delivery. Over the last three years, PrEP delivery has expanded to 44 sites (30 facilities and 14 DICs) in 16 provinces with the largest number of PP residents (Figure 1).



Figure 1. Clients initiating PrEP at community-based and facility sites by month.

Lessons learned: In total, 27,167 individuals initiated PrEP between July 2022 and September 2024: at-risk men 68%, at-risk women 15%, HIV negative partners 3%, others 14%. PrEP clients were young: ages 15–24 (47%) and 25–35 (39%). Although DICs accounted for only 30% of the total PrEP sites from January to September 2024, they enrolled 66% of new clients and retained 62% (vs. 32% at facility sites) as of September 2024

Conclusions/Next steps: PrEP delivery at DICs, supported remotely by facility-based providers, is an effective option for increasing PP client enrollment and retention, where peer delivery and client-tailored hours of operation promote client uptake and retention. More DIC PrEP sites should be established to help Cambodia reach its ambitious HIV elimination target by 2025

EP0416

Virtual mapping of MSM in Nigeria: enhancing HIV intervention strategies

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Background: Men who have Sex with Men (MSM), comprising less than 1% of Nigeria's population, face a disproportionately high HIV burden. The 2014 Integrated Biological and Behavioural Surveillance Survey (IBBSS) reported a 22.9% HIV prevalence among MSM, highlighting the critical need for targeted interventions. Traditional mapping methods often underestimate MSM populations, limiting effective service provision.
This study utilized virtual mapping to better understand MSM distribution and online engagement across Nigeria.
Methods: Data from existing programmatic mapping and size estimation studies were analyzed across 20 Nigerian states. A two-stage virtual mapping approach were employed: sequential listing of virtual sites frequented by MSM, followed by profiling and size estimation. Online surveys and interviews with MSM recruited from virtual platforms were conducted to gather data.
Results: The study identified approximately 73,925 MSM engaging on virtual platforms in the 20 states. Plateau State had the highest number of MSM accessing these platforms (12,898), followed by Kogi (8,926), while Kebbi recorded the lowest (87).
Notably, 82% of MSM on virtual platforms had visited a physical hotspot in the past month. Popular online platforms included LGBT-specific websites and apps, Facebook, WhatsApp, Instagram, and Messenger.
Conclusions: Virtual mapping offers critical insights for designing tailored HIV/AIDS interventions for MSM in Nigeria. The overlap between virtual and physical hotspots presents opportunities for integrated service delivery, enabling comprehensive outreach and improved health outcomes. These findings emphasize the need to leverage digital platforms to expand access to HIV prevention, care, and support services for MSM.

EP0417

Utility of social support and social networks theory in the PrEP continuum of care for adolescents: a review of the literature

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Background: In 2020, approximately 410,000 new HIV cases were reported among adolescents aged 10-24 years globally, with nine out of ten infections occurring in sub-Saharan Africa. To ensure adolescents receive the necessary support to prevent HIV/AIDS, social support and social network theories are important frameworks that can help optimize the PrEP continuum of care.
This literature review explores the potential of social support and social network theories in improving enrollment and retention in HIV pre-exposure prophylaxis (PrEP) care for at-risk adolescents aged 10-24.
Methods: This literature review involved searches across various databases. Inclusion criteria for articles were publication in English from January 2012 to December 2023, with a focus on adolescents aged 10 to 24, PrEP, social networks, social support, and any aspect of the PrEP Continuum of Care.
Results: The study encompasses eight peer-reviewed articles, each differing in study type, focus, and geographical context. The theories of social support and social networks were examined within various facets of the PrEP Continuum of Care, yet no study assessed the effects of interventions rooted on these theories. Key support figures were listed, particularly family members, showing interest in adolescents' PrEP usage, with a readiness to provide active support.
However, some parents' support was contingent upon the adolescent's request for it, while others' support hinged on their prior knowledge of PrEP. Frequent and

quality discussions between parents and children about sexual health and HIV/AIDS correlated with provision of support, increased awareness of PrEP and a greater likelihood of its use among adolescents. The studies also recognized the role of friends' networks in encouraging PrEP adoption, notably among adolescents who are sexual and gender minorities.

Conclusions: Social support and networks have the potential to improve the PrEP continuum of care for adolescents at risk of HIV. Future studies should investigate the application of interventions based on these theories.

EP0418

Leveraging data-driven mapping to optimize HIV prevention and care services for key populations in Bauchi state, Nigeria

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Background: Key populations (KPs)—female sex workers (FSW), men who have sex with men (MSM), people who inject drugs (PWID), and transgender individuals (TG)—face significant HIV risks and barriers to care.

This study aimed to accurately map and estimate the size of KPs using Multiple Source Capture-Recapture (MS-CRC) methods to inform targeted interventions.

Methods: A cross-sectional study was conducted across Bauchi State over six months. Three rounds of venue-based surveys identified 2,019 active hotspots, including brothels, street locations, and informal spaces. Bayesian latent class modeling provided size estimates for each KP group. Accessibility to healthcare facilities was analyzed, and service gaps were highlighted to guide interventions.

Results: The study estimated 5,100 FSW, 3,600 MSM, 7,600 PWID, and 1,000 TG individuals. Notably, only 39.4% of hotspots were within 1 km of healthcare facilities, limiting access to HIV prevention and care services. Mobile health clinics and decentralized service models increased HIV testing by 45% and linkage to antiretroviral therapy (ART) by 30%.

Conclusions: The findings demonstrate the utility of MS-CRC methods for precise KP size estimation and hotspot mapping. Targeted interventions, including mobile clinics and community engagement, significantly improved service accessibility and HIV outcomes.

Scaling these data-driven approaches will accelerate progress toward UNAIDS 95-95-95 goals in Bauchi State and similar settings.

EP0419

Determinants of Daily Oral Pre-exposure Prophylaxis (PrEP) among adolescent girls and young women (AGYW): insights from the Namibia DREAMS Program

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Background: Adolescent girls and young women (AGYW) aged 15-24 years in sub-Saharan Africa continue to face a significant risk of HIV acquisition. Oral pre-exposure prophylaxis (PrEP) can reduce the likelihood of HIV acquisition by more than 90% with optimal adherence. A DREAMS (Determined, Resilient, Empowered, AIDS-Free, Mentored, and Safe) program, implemented by the Project HOPE Namibia (PHN)-led consortium, provided PrEP services in the Khomas, Oshikoto, Zambezi, and Oshana regions.

This secondary analysis of DREAMS program data aimed to assess the rate of daily oral PrEP initiation among AGYW aged 15-24 and identify key characteristics and HIV risk factors associated with PrEP initiation.

Description: DREAMS delivered nurse-led, comprehensive PrEP services through a hybrid model, combining health facility-based delivery via adolescent and youth-friendly corners and community-based service delivery through a facility-linked outreach approach. AGYW were informed in advance about the schedule for community-based PrEP services through interpersonal communication. The DREAMS curriculum, flipcharts, pamphlets, posters, social media posts, and radio spots were utilized to generate demand.

Lessons learned: Among the 29,828 AGYW eligible for PrEP, 24,182 (81.1%) were newly initiated on PrEP. AGYW from Windhoek and Oshakati, those with 1-2 biological children, and those who perceived themselves at risk of HIV were more likely to initiate PrEP. In contrast, a lower likelihood of PrEP initiation was associated with AGYW from Omuthiya and Tsumeb, those unaware of their partners' HIV status, those with HIV-positive partners during pregnancy or breastfeeding, individuals with recent or recurrent sexually transmitted infections, those engaging in sexual activity while under the influence of alcohol or drugs, and those with multiple or concurrent sexual partners.

Conclusions/Next steps: These findings highlight the need for targeted HIV education in smaller urban and rural communities to address stigma and discrimination associated with PrEP use. Enhancing HIV education to improve risk perception among AGYW and dispelling misconceptions about PrEP side effects is critical. Additionally, providing user-friendly PrEP services can encourage greater uptake and adherence.

EP0420

Prevalence and factors associated with the diagnosis of sexually transmitted Infections among adolescentgGirls and young women (AGYW) in Namibia: insights from the DREAMS Program

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Background: Approximately one million curable sexually transmitted infections (STIs) are contracted daily by individuals aged 15-49 years worldwide, with adolescent girls and young women (AGYW) experiencing disproportionately higher incidence rates, particularly in sub-Saharan Africa.
This study assessed the prevalence of STIs and associated factors among AGYW enrolled in the DREAMS (Determined, resilient, empowered, AIDS-free, mentored, and safe) program implemented by Project HOPE Namibia.
Description: The DREAMS program's support for the prevention and control of STIs included revising and updating the national guidelines, conducting staff training on the management of STIs, increasing literacy about STIs among AGYW and their sexual partners, implementing routine STI screening at all entry points, and providing diagnosis and treatment of STIs using the syndromic management approach.
Lessons learned: Among 27,992 AGYW in this analysis, 3,184 (11.4%) were diagnosed with an STI (95% CI: 11.0% – 11.8%). AGYW aged 15-19 years (AOR = 0.74, 95% CI: 0.68–0.81), those enrolled between 2022 and 2023, programs participants for over 13 months, those who were pregnant or breastfeeding (COR = 0.12, 95% CI: 0.02–0.87), those using family planning (AOR = 0.25, 95% CI: 0.23–0.29), or those perceiving themselves to be at risk of HIV (AOR = 0.81, 95% CI: 0.75–0.88) were less likely to have an STI diagnosis. Conversely, higher STI diagnoses were observed among recurrent post-exposure prophylaxis PrEP) users (COR = 2.71, 95% CI: 1.21–6.07), individuals with a history of sexual violence (AOR = 3.96, 95% CI: 2.23–7.02), participants from all DREAMS districts except Katima Mulilo and AGYW engaging in sex under the influence of alcohol or drugs (AOR = 1.93, 95% CI: 1.2–2.95). A subgroup analysis of PrEP users who returned for a one-month follow-up showed no significant change in STI prevalence compared to enrolment.
Conclusions/Next steps: The findings underscore the need to intensify education on safe sexual practices and promote the consistent use of condoms to prevent STIs among high-risk AGYW while continuing to strengthen syndromic management. Additionally, leveraging existing laboratory and point-of-care systems for the molecular diagnosis of asymptomatic STIs is crucial to improving prevention and treatment efforts among high-risk AGYW.

EP0421

Survey focused promotion of injectable PrEP to enhance uptake of the service among adolescent girls and young women in a prospective cohort study in Lusaka, Zambia

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Background: Adolescent girls and young women (AGYW) in Zambia face disproportionate HIV risk, making them key candidates for HIV prevention trials. For both future trial participation and personal well-being, PrEP is essential, yet uptake remains low.
We assessed PrEP awareness and knowledge among Zambian AGYW in the Multisite Study with Adolescent girls and Young women (MAGY) to develop a tailored intervention to promote uptake.
Methods: We administered a survey, between June and December 2024 among AGYW in Lusaka and Ndola Zambia. Eligible participants were aged 15-24 years and sexually active. We collected data on social demographics, the participant's current HIV prevention and awareness of and attitudes towards PrEP (oral, injectable and vaginal ring). Participants who were not using PrEP were invited to a tailored PrEP-focused HIV prevention education session that utilized information, education and communication tools developed by the *Maximizing Options to Advance Informed Choice* for HIV Prevention (MOSAIC). When available, participants who were already on PrEP and satisfied with the method, were asked to share their experience using PrEP to an audience of non-users i.e. "Happy client" model. Data were analyzed to describe awareness of long-acting Cabotegravir (CAB-LA) and impact of the survey on its uptake.
Results: Among 159 AGYW surveyed (mean age 20.5±2.3 years, 95 (60%) >20 years), only 9 (6%) were on PrEP, including 5 (3%) on CAB-LA. Of those not using CAB-LA but aware of it (n=87, 56%), 54 (62%) believed it was effective, and 58 (67%) were comfortable receiving it. Among 24 participants expressing discomfort, primary concerns were side effects (9/24, 37%) and fear of needles (5/24, 21%). Post-intervention, 72/154 (47%) initiated CAB-LA and 9 (6%) chose oral PrEP. CAB-LA uptake was higher among participants >20 years (49/93, 53%) compared to those <20 years (23/61, 37%) (p<0.001).
Conclusions: Awareness of CAB-LA was high among AGYW given its recent rollout in Zambia in early 2024. Despite delivery of information on PrEP during our study and through ongoing AGYW HIV programs, uptake of PrEP remained low. The survey facilitated tailored messaging and improved uptake of Oral/injectable PrEP among AGYW.

EP0422

Attitudes towards HIV pre-exposure prophylaxis in middle-aged and older adults: a qualitative study in rural South Africa

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Background: Pre-exposure prophylaxis (PrEP) is one of the most significant breakthroughs in HIV prevention; however, its uptake in South Africa is limited and more than 150,000 people acquire HIV every year – a significant proportion of which is occurring in middle-aged adults. In the "Health and Aging in Africa: Longitudinal Studies in South Africa (HAALSA)" cohort study, 45% of individuals with a negative HIV status and aged 40 or higher qualify for PrEP counselling based on South African PrEP guidelines.
The objective of this study was to explore attitudes towards and barriers of PrEP use in this population.
Methods: The study was conducted in Agincourt, Mpumalanga, South Africa in 2024. We recruited a subset of participants from the 2022 HAALSA study. We randomly selected 30 participants that tested negative for HIV.
The sample selection was stratified by age with 50% of respondents being 50-59 years old and 50% being 60 years or older.
We conducted one-time, in-depth interviews in Shangaan. Audio recordings of the interviews were transcribed and translated into English. Rapid Analysis was used for analyzing the data.
Results: We interviewed 21 female and 9 male respondents. Our preliminary analysis revealed that PrEP awareness is very low.
Some participants expressed positive attitudes towards taking PrEP in the context of i) new partners, ii) their existing partner having multiple partners, or iii) their existing partner living with HIV.
Barriers to PrEP use included i) low perceived need due to old age or low sexual activity, ii) confusion about the distinction between PrEP and antiretroviral therapy, and iii) concerns about acceptance of PrEP in their partnership.
Participants preferences varied between oral and injectable PrEP; and between distribution via the clinic or community health workers, depending on privacy concerns and past experiences with the healthcare system.
Conclusions: Many middle-aged and older adults in South Africa are not aware of PrEP and when it should be used. If this awareness can be addressed, diverse PrEP modality preferences, partnership dynamics, and privacy concerns should be considered.

EP0423

Double dividend: PrEP uptake among pregnant and breastfeeding women in USAID/ PEPFAR-supported programs

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Background: Pregnant and breastfeeding women (PBFW) are at heightened risk of HIV acquisition, accounting for 24% of new pediatric infections globally (UNAIDS 2024). Oral and injectable pre-exposure prophylaxis (PrEP) options have the potential to reduce HIV incidence among PBFW and stagnating vertical transmission rates – a double dividend.
Description: We conducted a descriptive analysis of USAID/PEPFAR-supported PrEP uptake across 17 countries reporting PrEP initiations (PrEP_NEW) and PrEP return visits (PrEP_CT) among PBFW in fiscal year (FY) FY24 (October 2023 - September 2024).
Lessons learned: PrEP initiations among PBFW increased 35% from 11,305 in FY24Q1 to 15,296 in FY24Q4 for a total of 57,628 initiations in FY24. Zambia, Mozambique, and Zimbabwe reported the highest number of initiations in FY24, accounting for 71% of all initiations among PBFW.
Fourteen countries reported more than 50% of initiations among PBFW during pregnancy and seven countries reported more than 70% of initiations during pregnancy.
Three countries-- Nigeria (59%), Tanzania (60%) and Rwanda (93%)-- reported a higher proportion of PBFW initiations among breastfeeding women.
During FY24, the number of PBFW who returned for PrEP at least once in a quarter (PrEP_CT) increased from 4,851 in Q1 to 7,270 in Q4.
Among all PBFW returning for PrEP, pregnant women represented 53% (median percentage) of women across 15 countries.
Eswatini (63%), Burundi (62%) and Malawi (60%) reported the highest proportion of breastfeeding women returning for PrEP per quarter.
Early lessons show that embedding PrEP in maternal and child health services, including post-partum care, well-child clinics, and child health days is critical to improving PrEP uptake and continuation among PBFW.
Provider training and counseling to address biases in recommending PrEP to PBFW, sensitization of community leadership and PBFW partners on PrEP availability, and training of community cadres on demand generation also contributed to increases in PrEP initiations.
Conclusions/Next steps: USAID/PEPFAR-supported PrEP initiations among PBFW are slowly increasing, driven by significant expansion in three countries. Given high HIV incidence in pregnancy and breastfeeding, longer-acting

PrEP options, if approved and prioritized for PBFW, could promote continuation and reduce new infections among PBFW and children.

EP0424

Pre-exposure prophylaxis uptake among pregnant and breastfeeding women in Midlands Province, Zimbabwe, 2024

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Background: HIV acquisition during pregnancy and breastfeeding remain as one of the greatest contributors of mother-to-child transmission (MTCT) of HIV. Zimbabwe adopted Pre-Exposure Prophylaxis (PrEP) as part of HIV combination prevention strategies for pregnant and breastfeeding women (PBW) to attain the World Health Organization's target of an MTCT rate of less than five percent. The Midlands Province's MTCT for the year 2023 was 9.6% which was higher than the national MTCT rate of 7.4 %. We determined the uptake of PrEP and factors associated with PrEP uptake among PBW in the Midlands Province.

Methods: We conducted an analytical cross-sectional study among 802 women testing HIV negative in antenatal and postnatal care in four districts of Midlands Province in October 2024. Ten facilities were randomly selected from each district. Data was abstracted from HIV testing registers in antenatal and postnatal clinics using a tool designed in the Kobo toolbox. Data was analyzed using Stata version 12 to generate frequencies, proportions and measures of association. We performed logistic regression analysis at 5% significance level to determine independent factors for PrEP uptake.

The study was covered by the Medical Research Council of Zimbabwe (MRCZ) approved non-research determination protocol (MRCZ/E/159).

Results: Of the 802 women, 68.8% were pregnant whilst 31.2% were breastfeeding. About 57.7% of PBW were aged less than 25 years and 68.7% were from rural areas. The PrEP uptake was 21.9%. There were five PBW with serodiscordant partners and all enrolled for PrEP. Among 172 PBW classified as high risk after assessment using an HIV screening tool, 70.9% enrolled for PrEP. The independent predictors of PrEP uptake were being a contact of an HIV index case [AOR 37.78; p=0.002] and high-risk classification during HIV risk assessment [AOR 25.84; p<0.001].

Conclusions: The overall PrEP uptake among PBW was low. The greatest contributor to PrEP uptake among PBW was a perception of high HIV risk. We recommend improved counseling on PrEP services in ANC and PNC departments and investing in community awareness to enhance PrEP uptake among PBW.

EP0425

Comparing PrEP uptake across DREAMS-supported versus non-DREAMS-supported districts in USAID programs

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Background: Pre-exposure prophylaxis (PrEP) is a key intervention offered as part of the secondary package of DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored and Safe) – a combination HIV prevention program aimed at reducing adolescent girls and young women's (AGYW) HIV incidence. Multiple studies demonstrate that providing wrap-around services such as HIV education, peer support, and access to adolescent-responsive health services can empower AGYW to effectively initiate and use PrEP. The DREAMS platform has served as a catalyst for the roll-out of PrEP in sub-Saharan Africa among AGYW. We sought to compare PrEP uptake in districts with and without DREAMS.

Description: A descriptive analysis was conducted using USAID data for AGYW 15-24 years old from fiscal year (FY)19 to FY23, comparing PrEP uptake reported by USAID in DREAMS and non-DREAMS districts within and across 14 countries. The districts were categorized into three groups, using the first year DREAMS services were reported: 1) districts that never implemented DREAMS; 2) districts that have implemented DREAMS in or before FY19 and; 3) districts that have implemented DREAMS since FY21.

Lessons learned: Districts that never implemented DREAMS reported lower yearly PrEP initiations among AGYW and lower yearly target achievement compared to districts that started implementing DREAMS in FY19 or earlier. Districts implementing the DREAMS program by FY19 initiated a total of 279,167 AGYW on PrEP from FY19 to FY23, nearly twice as many AGYW in that same five-year period as districts that have never implemented DREAMS (143,043). Similarly, districts that started DREAMS in FY21 reported increases in PrEP initiations from FY21 to FY23 and exceeded targets for PrEP initiations.

Conclusions/Next steps: Districts implementing DREAMS show higher PrEP uptake compared to districts that have not implemented DREAMS. While PrEP expansion also occurred outside DREAMS-supported districts, DREAMS infrastructure may have accelerated scale-up.

Existing evidence underscores that strategies such as peer support, community acceptance, and community-based platforms for PrEP delivery support PrEP use, especially for AGYW.

As longer-acting PrEP options are introduced, it will be critical to quantify the contribution of structural and behavioral components of DREAMS to biomedical prevention uptake in order to inform broader programming.

EP0426

Identifying the most-at-risk sub-populations for low HIV testing uptake among adolescent boys and young men: results from a nationally representative survey in Zambia

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Background: Adolescent boys and young men (ABYM) have low HIV testing uptake, which is detrimental to HIV prevention and care efforts. However, limited research has identified the sub-populations among ABYM who are less likely to uptake HIV testing and are most-at-risk for HIV acquisition. This targeted approach could inform effective interventions to enhance testing uptake among ABYM. We therefore analysed correlates of HIV testing uptake among ABYM in Zambia.

Methods: This cross-sectional study used the most recent Demographic Health Survey (2018) from Zambia. The survey collected participant socio-demographic information, HIV testing history and HIV risk behaviours.

Our analysis was restricted to ABYM, aged 15-24. We performed logistic regression modelling with odds ratios (ORs) and 95% confidence intervals (CIs) to determine the exposure variables (demographics and sexual behaviours) associated with the study outcome (ever testing for HIV).

Results: Of the total sample of 4846 participants, 59% (n=2852) were adolescent boys aged 15-19, while 41% (n=1994) were young men aged 20-24. The prevalence of lifetime HIV testing was 60% (n=2896).

Adolescent boys were 77% less likely to report ever testing for HIV (OR: 0.27, 95% CI: 0.22-0.32) compared to young men. ABYM who reported paying for sex in the last 12 months were 41% less likely to report a lifetime HIV test (OR: 0.59, 95% CI: 0.45-0.76) than ABYM who did not report paying for sex in the last 12 months.

Lastly, ABYM did not use condoms with their most recent sexual partner had 53% lower likelihood of reporting a lifetime HIV test (OR: 0.47, 95% CI: 0.39-0.57) compared to ABYM who used condoms with their most recent sexual partner.

Conclusions: Our findings identified two key sub-populations among ABYM who have low HIV testing uptake:

1. ABYM who reported high-risk sexual behaviours were less likely to test for HIV than ABYM who reported lower risk sexual behaviours;
2. Adolescent boys were less likely to test for HIV than young men.

These findings highlight a critical gap in HIV prevention and care services targeting these sub-populations. Interventions that reduce barriers to testing and promote safer sexual practices among these sub-populations are required.

EP0427

Leaving no one behind: integrating LGBTIQ+ into key population HIV/SRH programming in Homabay County, Kenya

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Background: Lesbian, Gay, Bisexual, Transgender, Intersex and queer people (LGBTIQ+) often encounter stigma from healthcare providers and communities due to their nonconforming sexual orientation and gender identity. Stigma poses a significant barrier to accessing HIV prevention services. Kenya's Key Population program focusing on sex workers, Men having sex with men (MSM), and transgender individuals, *other LGBTQ+ communities are excluded.*

Homabay County reported 7,463 Female Sex Workers (FSWs) and 2,432 MSM on follow-up in the Key Population (KP) program in 2024. This abstract highlights a success story of enhanced HIV prevention access for the LGBTQ+ community achieved through integration into the existing key population program in two sub counties.

Description: To improve accessibility to HIV prevention services for LGBTQ+ communities, Ministry of health (MOH) and Centre of Study for adolescence (CSA), under the Equal Rights, Equal Access program, trained 52 healthcare providers from two sub counties in Homabay County in delivering non-discriminatory and stigma-free HIV prevention services. The trained providers then disseminated the acquired knowledge at the facility and community level using the 'Leave No One Behind' curriculum. Communities through support of CSA identified peers for each LGBTIQ+ typology, fostering peer-led empowerment sessions. These peers facilitated referrals and ensured linkage to healthcare facilities and existing KP drop in centers. Furthermore, CSA developed gender-inclusive tools for monitoring SRH/HIV indicators and conducts monthly performance reviews with all stakeholders.

Lessons learned: Peers have effectively reached at least 1,258 LGBTIQ+ persons, with HIV risk reduction information and linkage to health facilities. A total of 778 were referred for PREP and SRH services, encompassing 26 Gender Fluid, 110 Gender Non-conforming, 418 Men, 4 Transgender, and 220 Women. Within the referred group, gay men constituted 40%, Lesbians comprised 28%, bisexual individuals 25%, and 7% identified as queer.

This initiative marks a significant stride towards inclusivity for sexual and gender minorities, ensuring that every individual has equal rights and equal access to HIV Prevention services.

Conclusions/Next steps: Integration of LGBTIQ+ risk reduction within the Key population program is achievable. Integration can help reduce cost due to shared safe space. Sensitization of healthcare providers on provision of non-judgmental care is key to program success

EP0428

Low uptake of oral daily PrEP among men who have sex with men in Thai Nguyen, Vietnam, 2022: identifying barriers and opportunities to enhance access

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Background: HIV prevalence among men who have sex with men (MSM) in Vietnam has increased significantly in recent years. While oral daily pre-exposure prophylaxis (PrEP) effectively reduces HIV risk, the factors influencing its use among MSM in Vietnam remain unclear.

This study examined the prevalence of, and factors associated with, daily oral PrEP use among MSM to inform targeted prevention strategies.

Methods: A cross-sectional bio-behavioral survey was conducted from October-November 2022 in Thai Nguyen, using respondent-driven sampling (RDS). Eligible participants were individuals assigned male at birth, aged ≥16, who had engaged in anal intercourse with another man in the past 12 months.

Data on demographics, sexual behaviors, substance use, and HIV service utilization were collected via interview administered questionnaires. Daily oral PrEP use was defined as either currently using, or having ever used, daily PrEP within the past 12 months. Multivariate logistic regression, adjusted for RDS weighting, was performed using R software to identify potential associations.

Results: Among 286 HIV-negative MSM participating in the survey, 9.9% (95%CI: 6.0%-13.7%) reported using daily PrEP within the past 12 months. In multivariate logistic regression models, MSM aged 25 years or older had higher odds of PrEP use than those aged 18-24 years (adjusted odds ratio [aOR]: 4.13; 95%CI: 1.08-15.75).

Those with a college/university education or higher were less likely to use daily PrEP than those with a high school education or lower (aOR: 0.26; 95% CI: 0.07-0.96).

Married individuals had higher odds of using PrEP compared to singles (aOR: 6.64; 95% CI: 1.38-32.08). Being recently screened/tested for sexually transmitted infection (STI) (for symptoms, screening or any reason) (aOR: 16.67; 95%CI: 5.55-56.27) and history of drug use (aOR: 6.60; 95% CI: 1.72-25.35) were positively associated with PrEP use.

Conclusions: This study indicates a low level of daily PrEP uptake within the past 12 months among MSM in Thai Nguyen. Individuals recently screened for STIs, or with a history of drug use, were more likely to use PrEP, suggesting opportunities to leverage these services to enhance access.

Further research could provide valuable insights into barriers to PrEP uptake, focusing on MSM subgroups with higher-risk behaviors.

EP0429

The role of PEPFAR's DREAMS (determined, resilient, empowered, AIDS-free, mentored, and safe) program in pre-exposure prophylaxis (PrEP) rollout and scale-up among adolescent girls and young women

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Background: Despite substantial declines in new HIV acquisitions globally, the HIV pandemic continues to disproportionately impact adolescent girls and young women (AGYW) in many countries.

To address this disproportionate risk for HIV acquisition, there is a need for effective HIV prevention and service delivery options to facilitate PrEP uptake and continuation among AGYW.

Description: PEPFAR implements the DREAMS program in the highest HIV burden districts in 15 countries. DREAMS provides a comprehensive package of core interventions to address key factors that make AGYW particularly vulnerable to HIV.

PrEP is a critical component of a multi-pronged approach to HIV prevention; however, AGYW face multiple barriers to accessing PrEP, including fear of disclosing PrEP-use to partners, difficulty accessing healthcare services, limited social support, and gender-based violence (GBV).

To address these issues, a key component of the DREAMS program involves PrEP education, service delivery, and peer support to provide an effective platform for PrEP uptake.

Lessons learned: DREAMS is implemented in 133 of a total 861 PEPFAR-supported subnational units that provide PrEP. DREAMS strategies to support access and effective uptake of PrEP include provision of integrated and youth-responsive health services in facilities and community outreach models, offering HIV and GBV services, and support through peer-to-peer mentorship for DREAMS participants.

Using FY21-24 PEPFAR Monitoring, Evaluation, and Reporting (MER) data, we assessed PrEP initiations among AGYW. Across PEPFAR-supported countries, AGYW in DREAMS districts accounted for a higher amount of PrEP initiations compared to those in non-DREAMS districts (*Figure 1*).

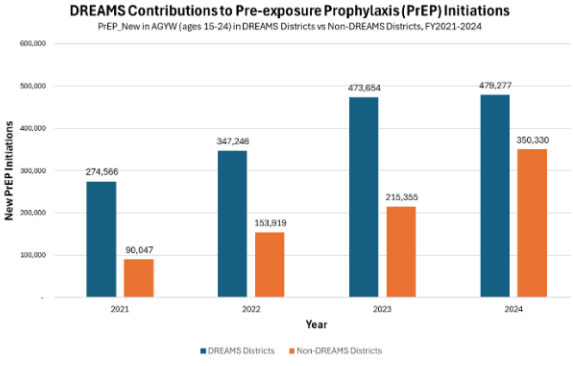


Figure 1.

Conclusions/Next steps: PEPFAR's DREAMS program provides an effective platform and approach for PrEP scale-up.

With promising new biomedical prevention options such as Lenacapavir on the horizon, it's critical that HIV programs build off the lessons learned and utilize structures in place, such as those implemented via DREAMS, to increase uptake and continuation of PrEP and other HIV prevention options among AGYW.

EP0430

Correlates of non-adherence among current HIV PrEP users in Brazil, Mexico and Peru: results from a 2024 on-line survey

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Background: While oral HIV PrEP is now being scaled-up in Latin America, suboptimal adherence continues to reduce program effectiveness and should be addressed. We assessed frequency, distribution and correlates of PrEP non-adherence among sexual and gender minorities (SGM) in Brazil, Mexico and Peru.

Methods: We conducted an online, cross-sectional survey (August-November 2024) among SGM aged 18+ years. Individuals not living with HIV were asked about current PrEP use, and current users were asked to estimate their adherence to PrEP.

To explore factors associated with non-adherence (adherence <95%) we included age, country, education, income, race/ethnicity, depression (PHQ-9 score), homonegativity, number of sex partners, recent chemsex, and sex with partners living with HIV in a multivariate Poisson regression model.

Results: Among 9257 subjects not living with HIV (Brazil: 65.5%; Mexico: 24.6%; Peru: 9.9%), 2380 (25.7%, 95%IC 24.8-26.6%) were currently using PrEP. PrEP non-adherence was reported by 704 (30.3%) and varied considerably by country (Brazil: 25.0%; México: 54.2%; Perú: 28.5%).

PrEP non-adherence was significantly associated with being from Mexico, having secondary education or less, lower income, higher self-perceived HIV risk, and recent chemsex (all adjPRs and 95%CIs in Table).

Characteristics	PrEP non-adherence adjPR [95% CI]*
Country (Ref Brazil)	
Mexico	1.90 [1.55-2.35]
Peru	0.99 [0.71-1.38]
Education (Ref: secondary or less)	
More than secondary	0.76 [0.59-0.98]
Monthly income (Ref: <1 minimum wage)	
> 1 to 2 minimum wages	0.89 [0.68-1.17]
> 2 to 6 minimum wages	0.76 [0.59-0.97]
> 6 minimum wages	0.81 [0.62-1.17]
Perceived HIV risk	1.05 [1.03-1.06]
Recent Chemsex	1.16 [1.07-1.49]

*Multivariate prevalence ratios were also adjusted for age, race, depression, homonegativity, number of sex partners, and sex with people living with HIV

Table: Sociodemographic and behavioral factors associated with PrEP non-adherence among SGM currently using PrEP in Brazil, Mexico and Peru, 2024.

Conclusions: PrEP non-adherence was reported by nearly 1/3 of current users in Brazil, Mexico and Peru. Highly prevalent non-adherence fundamentally affects the effectiveness and efficiency of PrEP implementation and should be addressed. Hence, PrEP scale-up should monitor the frequency of non-adherence and consider implementing activities to support users maintain/improve adherence. Users facing context-specific barriers, and members of more marginalized groups such as those with lower income and/or education, or involved in chemsex, may require additional intervention.

EP0431

Higher levels of alcohol use are associated with increased HIV risk among persons at alcohol-serving venues in the OPAL trial in Kenya and Uganda

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Background: Alcohol-serving venues represent sites of high HIV transmission risk due to unhealthy alcohol use and co-location of persons with increased risk of HIV and untreated HIV. We examined how HIV risk, sexual risk behaviors and untreated HIV varied by levels of alcohol use among persons recruited from alcohol-serving venues in rural East Africa.

Methods: We conducted a cross-sectional analysis at baseline (2023-2024) of a cluster-randomized trial (NCT05862857) of strategies to promote biomedical HIV prevention uptake among adults from alcohol-serving venues in eight communities (~10,000 persons/community) in Kenya and Uganda. Using recruitment cards, we invited patrons and workers (≥18 years) for free HIV

screening at nearby health facilities with referral to HIV prevention (PrEP/PEP) or antiretroviral therapy (ART). We evaluated associations between levels of alcohol use by past-3-month Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) score (no/low-alcohol:0-2 women/0-3 men; medium:3-5 women/4-5 men; high:6-7; very-high:8-12) and self-reported HIV risk among persons without HIV or untreated HIV among persons with HIV (PWH), adjusting for age, sex, and country and accounting for clustering by venue.

Results: At 480 venues, we distributed 9375 recruitment cards: 7744 (83%) participants linked for screening (Kenya:4042; Uganda:3702). Median age 34 years, 2970 (38%) women, 91% patrons, and 4107 (53%) reported unhealthy alcohol use: 26% medium, 11% high, and 16% very high. 6124 (79%) tested HIV-negative of whom 2285 (37%) reported increased HIV risk. Increasing alcohol use was associated with significantly higher odds of HIV risk and sexual risk behavior *(Table)*.

Of persons screened, 1620 (21%) were PWH, of whom 14% had untreated HIV [141 (9%) newly diagnosed and 78 (5%) previously diagnosed PWH not on ART]. Levels of alcohol use were not associated with untreated HIV among PWH.

	Adjusted odds ratio (95%CI) by unhealthy alcohol use level, relative to no/low use		
	Medium	High	Very high
Self-reported HIV risk	1.36 (1.19-1.55)	2.07 (1.73-2.47)	2.12 (1.81-2.49)
Partner unknown status	1.28 (1.11-1.46)	1.93 (1.61-2.32)	2.17 (1.85-2.55)
Multiple partners	1.49 (1.21-1.83)	2.91 (2.26-3.74)	3.10 (2.47-3.89)
Transactional sex	1.35 (1.03-1.77)	2.89 (2.17-3.86)	3.70 (2.84-4.82)
Sexually transmitted infection	1.24 (0.86-1.80)	2.89 (1.95-4.26)	4.90 (3.47-6.92)
Untreated HIV (among PWH)	1.12 (0.77-1.62)	1.18 (0.74-1.89)	0.89 (0.57-1.38)

Conclusions: Increasing levels of alcohol use are associated with self-reported HIV risk and risk behaviours. Our findings highlight the need for interventions to reach, engage and reduce alcohol use among adults at alcohol-serving venues.

EP0432

Reaching the unreached: a gender-sensitive approach to HIV prevention and care for spouses of PWID in Pakistan

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Background: The HIV epidemic in Pakistan remains concentrated among key populations, necessitating targeted programmatic efforts for people who inject drugs (PWID), transgender individuals, and sex workers. Spouses and partners of PWID, identified in 2008 as a leading "bridge population," require focused interventions due to their increased vulnerability to HIV. However, engaging this dispersed and socially integrated group within communities has been challenging.

Description: To address the unique needs and vulnerabilities of the spouses of PWID, Nai Zindagi (NZ) implements a gender-sensitive *Spouses Prevention Program.* With the written consent of HIV-positive PWID, female outreach workers provide services in the privacy and safety of the spouses' homes. This includes counseling, condom distribution, HIV and HCV rapid testing, and quarterly nutritional support for eligible families. For spouses diagnosed with HIV, the program offers critical interventions, such as facilitating the testing of their children—a vital step in a country with low antenatal HIV testing coverage.

Female outreach workers also provide comprehensive case management, support for treatment initiation and adherence at public HIV clinics, and accompaniment services. For spouses who test negative, the program promotes biannual HIV retesting to ensure continued prevention.

Lessons learned: Since its inception in 2012, the program has enrolled 12,630 female spouses, 70% of whom were between the ages of 18 and 35. Of those enrolled, 77% were tested and informed of their HIV status, with an HIV prevalence rate of 10% observed among this group.

Additionally, the program tested 1,777 children (ages 0–18) of HIV-positive mothers, identifying 102 children as HIV-positive during initial testing. In 2024 alone, the program reached 6,457 spouses, including 3,899 tested for HIV, providing a comprehensive suite of prevention, testing, treatment, and care services across 62 districts in Pakistan.

Conclusions/Next steps: This program has demonstrated an effective and innovative approach to engage a previously underserved population, fostering safer practices, and ensuring timely linkage to care.

To further enhance the impact, the addition of pre-exposure prophylaxis (PrEP) to the existing service package is strongly recommended. Such measures would strengthen HIV prevention efforts and support the broader health and well-being of this vulnerable group.

EP0433

Engaging male sexual partners: the MASTER approach to reducing HIV among young women

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Background: Côte d'Ivoire faces a significant HIV burden, with 8,978 new cases reported in 2022, 62.8% of which were among women. Adolescent Girls and Young Women (AGYW) are particularly vulnerable, and men, with a 1.1% prevalence rate, play a critical role in transmission. The DREAMS SOUNGOUROU FARIMA project, through its MASTER (Men for AGYW Support, Trust, Engagement and Resilience) approach, aims to involve male sexual partners (MSPs) of AGYW in HIV prevention efforts. By raising awareness, reducing risk behaviors, and improving access to healthcare, the project targets in Abidjan.

Description: The MASTER approach is a strategy that integrates male sexual partners of AGYW to strengthen HIV prevention efforts. It begins by enrolling AGYW aged 20 to 24, followed by the identification and enrollment of their MSPs with their consent. These partners then participate in weekly sessions organized by age group, focusing on topics such as HIV prevention, sexual health, and risk

behaviors. The approach is grounded in the SASA (Start, Awareness, Support, Action), which aims to raise awareness, shift behaviors, and provide biomedical support, including referrals to specialized healthcare facilities. Safe spaces are established to maintain confidentiality and encourage active engagement.

Lessons learned: The approach has exceeded expectations, with the number of MSPs enrolled increasing from 5,424 to 8,124. This outcome highlights the positive impact of involving men in HIV prevention efforts, benefiting AGYW directly. Engaging MSPs helps reduce risky behaviors, providing greater protection for AGYW. By encouraging sustainable behavior change in men, the approach fosters a safer environment for AGYW and accelerates progress in the fight against HIV.

Conclusions/Next steps: Involving MSPs is crucial for effective HIV prevention. The MASTER approach, which combines biomedical, behavioral, and structural interventions tailored to local contexts, has proven successful. The next steps include strengthening SASA sessions and guiding men toward specialized healthcare. This initiative underscores the importance of male involvement in accelerating the fight against HIV/AIDS.

EP0434

Demographic and clinical outcomes of pregnant women living with HIV, and associated STBBI co-infections, and their infants in Saskatchewan, Canada – A Mother-Child Dyad mixed-method study

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Background: Saskatchewan (SK) continues to record the highest HIV incidence rates in Canada. Since 2020, epidemiological trends have shifted from intravenous drug use (IVDU) to heterosexual transmission as a primary HIV risk factor. In 2023, women of childbearing years represented 62% of new diagnoses. Between 2020-2023, 7 infants were born with HIV in SK.

This study reports the rates of HIV, syphilis and HCV co-infections and associated health outcomes among women living with HIV (WLWH) and their infant dyads in central and northern SK, Canada.

Methods: A retrospective chart review of 184 pregnant WLWH and 180 live infant dyads was conducted from January 1, 2018, to December 31, 2023. Descriptive variables, testing, treatment, and laboratory trends across periods were extracted. Three time periods were analyzed and compared: T1=Jan.1, 2018–Dec. 31, 2019; T2=Jan.1, 2020–Dec. 31, 2021; T3=Jan.1, 2022–Dec. 31, 2023. Qualitative data were collected through sharing circles and semi-structured interviews. Data was analyzed and coded using NVivo 14, providing insights into WLWH's experiences during pregnancy and seeking and accessing prenatal care and perinatal follow-up within the health system.

Results: Data demonstrates a sharp increase in HIV/syphilis co-infection (T1=0%; T3=26%) and the rise of women with IVDU (T1=55%; T3=64%), with a corresponding reduction of opiate substitution therapy (T1=76%; T3=57%). Infant clinical outcomes and retention in care were correlated with WLWH social and clinical outcomes, with 33% lost to follow-up. Qualitative data identified barriers and facilitators to accessing care, including reasons for disengaging from follow-up care. Barriers included ongoing experiences of stigma, breaches of confidentiality, and restrictive policies. Trusted community spaces, such as harm reduction drop-in centres and culturally responsive wrap-around care approaches, provide critical linkage to care and ongoing support for many WLWH in pregnancy and after birth.

Conclusions: The increasing rates of HIV and co-infections among women of childbearing age in SK underscores the necessity for targeted strategies to reduce infections and vertical transmission risk for infants. Preventing vertical transmission and receiving treatment for addictions and co-infection(s) are critical for maternal and infant clinical outcomes.

EP0435

Prevalence and factors associated with viral load suppression among adolescents living with HIV in Rwanda, 2019-2021

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Background: The goal of antiretroviral therapy is to achieve sustained human immune deficiency virus (HIV) viral suppression. However, research on the prevalence and factors associated with viral load suppression among adolescents in low and middle-income countries is limited.

The objectives of this study were to determine the prevalence and factors associated with viral load suppression among adolescents living with HIV in Rwanda.

Methods: A retrospective study used data from all public health facilities in Rwanda providing services to Adolescents Living with HIV (ALHIV) and who are regularly reporting in Viral Load Sample Management System (VLSMS) from January 2019 to December 2021. Binary logistic regression was used to determine factors that influence viral load suppression among participants, then Odds Ratios (ORs) and 95% C.I were reported. Results were significant at 95% confidence level. Data were analysed using STATA software version 16.

Results: Out of 10,615 participants, 86.9% had achieved HIV viral suppression (<1,000 copies of viral RNA/mL of blood). After adjusting for other covariates, adolescents with good adherence to ART (AOR=4.5, 95% C.I: 3.6-5.7), receiving care and treatment at hospital level (AOR=1.3, 95% CI=1.1-1.5), between the age of 15 to 19 (AOR=1.1, 95% CI=1.0-1.3), receiving second or line ART regimen (AOR=0.4, 95%

CI=0.3-0.4), residing in Western province (AOR=0.7;95% CI: [0.5-0.9]; p=0.01), and Eastern province (AOR= 0.7; 95% CI: [0.6-0.9]; p=0.026) were significantly associated with viral load suppression in ALHIV.

Conclusions: The findings indicate that viral suppression among ALHIV on ART was at 86.9% and this proportion is below the UNAIDS 2030 target set at 95%. The findings indicate that having good adherence to ART, receiving care from hospital level, being an adolescent between the age of 15 to 19 contribute in attaining viral load suppression. However, ALHIV on 2nd or 3rd line treatment have a risk of viral load non suppression.

Strengthening adherence and support program, care and treatment programs at health centre level, development of age and location-appropriate interventions and an individualized care support for ALHIV on 2nd or 3rd line ART regimen are the main recommendation of this study

EP0436

Prevalence of STIs among adolescent girls and young women (AGYW) in the DREAMS Program in the Ugandan military

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Background: PEPFAR's Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS) program aims to reduce high HIV transmission rates among adolescent girls and young women (AGYW) aged 10-24 years. In Uganda, young people aged 15-24 years represent 25% of the population, but account for half of all new sexually transmitted infection (STI) cases.

The DREAMS program provides a comprehensive package of evidence-based interventions, addressing factors contributing to AGYW's vulnerability to HIV. This abstract compares the outcomes of AGYW STI screening at program entry and six months into the program.

Description: With funding from the Department of Defence HIV/AIDS Prevention Program (DHAPP), URC implemented DREAMS interventions at two Ugandan military bases. STI screening was conducted using the syndromic approach with standard Ministry of Health tools at pre- and post-service.

Raw data from the Uganda DREAMS and Orphans Tracking System were analyzed descriptively to assess changes in STI positive screen results between baseline data and six months post DREAMS interventions.

Diagnosis required two or more affirmative responses to questions – partner with STI treatment in the last eight weeks; vaginal discharge; pain during intercourse; genital itching; genital ulcers; and lower abnormal pain.

Lessons learned: Over two Fiscal Years (FYs), 1,865 AGYW were screened for STIs, with a prevalence of 42% (780/1,865). STI prevalence decreased significantly from 55% in FY23 to 29% in FY24. The highest prevalence was observed in the 20–24 age group, accounting for 57% (293/513) in FY23 and 63% (169/267) in FY24, with a mean age of 22 years.

Symptom patterns shifted over time, with lower abdominal pain increasing from 61% (313/513) in FY23 to 88% (234/267) in FY24 and self-reported vaginal discharge decreasing from 61% (313/513) to 52% (140/267). Partner STI testing improved slightly, rising from 2.3% (12/513) in FY23 to 6% (16/267) in FY24. Six months post-intervention demonstrated a 0% prevalence across the fiscal years, highlighting the interventions' effectiveness – linkage for treatment; condom promotion on correct and consistent use; and integrated HIV and STI prevention curricular-based messages.

Conclusions/Next steps: STI prevalence among high-risk AGYW is high in these two districts, highlighting the need for comprehensive targeted STI screening, surveillance, and treatment programs.

EP0437

Expanding access to the prevention of vertical transmission services to distant communities in achieving epidemic control of HIV in Southern Nigeria

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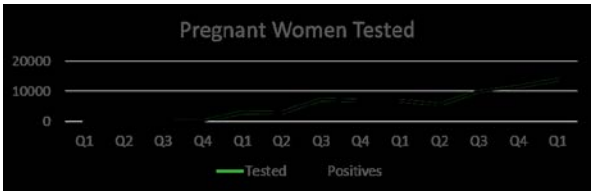
Background: Globally, Nigeria has the highest number of new HIV diagnoses among children, with less than 50% Prevention of Mother to Child Transmission (PMTCT) of HIV coverage, according to National Agency for the Control of AIDS (NACA fact sheet, 2016). Achieving epidemic control of HIV would require PMTCT services to reach the unreachable population in low-resource settings.

This study describes a program's experience in strengthening health systems and addressing inequities in access to PMTCT services in distant communities in three Southern Nigerian states.

Description: A package of interventions on health system strengthening and equity was designed to improve the uptake of these services in the three states: provision of essential products for testing, expanded service delivery through congregational approaches, improved collaboration with religious houses on governance, improved model of reporting on health management information system.

Implementation of the integrated service delivery commenced in January 2023. Analysis of HIV testing data among pregnant women abstracted from DHIS was conducted using Excel and were analyzed on a quarterly trend. A chi-square test was used to compare the proportions across quarters. The review covered January 2022 to December 2025.

Lessons learned: In 2022, 5961 women were tested, 47 positives identified, this increased in 2023, with 29,601 tested, 107 positives diagnosed, upward increase was seen In 2024, with 35,392 tested, and 104 positives identified, at a total of 67,963 screened, 196 women identified with positive results, (80(31%) are previously known clients, 178(69%) are new clients), with a positive screening test of 0.4%. The difference in proportions across the period was statistically significant(p<0.001). The positives were all linked to antiretroviral therapy (ART).



Conclusions/Next steps: There was an increase in testing numbers of pregnant women after the intervention, with increase in positives identified within the same period. This approach is recommended across unreachable communities while optimizing sustainable approaches across all facilities.

EP0438

Trends in maternal HIV testing after first antenatal visit and PrEP uptake among pregnant and breastfeeding women in five PEPFAR-supported countries during fiscal year 2024

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Background: In 2023, 24% of new infant HIV acquisitions resulted from incident maternal HIV transmissions during pregnancy and breastfeeding, and half occurred after the first six weeks of life. Reduction of vertical transmission (VT) relies on rapid identification of new HIV acquisitions in pregnant and breastfeeding women (PBFW) with immediate linkage to antiretroviral therapy or linkage to HIV combination prevention services, including pre-exposure prophylaxis (PrEP) for PBFW who are HIV-negative. The United States President's Emergency Plan for AIDS Relief (PEPFAR) has scaled maternal retesting to achieve UNAIDS targets by accelerating the reduction in VT in countries with the highest burden of HIV in infants.
Methods: Routine PEPFAR programmatic data were analyzed across five PEPFAR-supported countries (Kenya, Mozambique, Tanzania, Uganda and Zambia) in fiscal year 2024 (FY24). Monitoring indicators for HIV retesting include women who tested during pregnancy or labor and delivery (P/L&D), or while breastfeeding (BF) after their first ANC visit (postANC1). Disaggregates were analyzed for individuals newly initiated on PrEP and those re-initiating PrEP to determine PrEP uptake among HIV-negative PBFW.
Results: In FY24, PEPFAR administered 5,748,244 postANC1 HIV tests across the five focus countries, representing 65% of all postANC1 testing in 22 PEPFAR-supported countries with VT programming. From FY24 Q1 to Q4, postANC1 testing volume was highest during P/L&D (3,416,331) compared to BF (2,331,913); however, there was a greater increase in postANC1 during BF (41%) compared to P/L&D (27%) by Q4. Cumulatively, there were 123,040 new PrEP enrollments among PBFW, representing 77% of new enrollments in PEPFAR-supported countries with VT programming in FY24. New PrEP enrollment increased by 26% among PBFW between FY24 Q1 and Q4, while PrEP re-initiation increased by 44%. Of the five countries from Q1 to Q4, Uganda had the largest increase in postANC1 testing (+46% for P/L&D and +59% for BF); Zambia had the highest increase in PrEP re-initiation (+38%).
Conclusions: Maternal HIV retesting scale-up contributed to modest increases in PrEP re-initiation for PBFW at risk of HIV acquisition. Intensified efforts to scale up maternal HIV retesting and linkage to available PrEP options is essential to accelerate progress in reducing VT in areas with high HIV burden.

EP0439

Road to elimination of vertical transmission: optimizing Maternal retesting to identify seroconversion among Women in Southern Nigeria

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Background: Maternal retesting for HIV can identify incident maternal HIV diagnosis and prevent vertical transmission. Despite recommendation by WHO and national guideline for management of HIV in Nigeria, implementation is still sub-optimal, at less than 50% PMTCT coverage, with data obtained from the National Agency for the Control of AIDS (NACA fact sheet, 2016).
This study describes the interventions done in strengthening health systems to improve uptake of maternal retesting among pregnant women over three years in three Southern Nigerian states (Lagos, Edo and Bayelsa).
Description: Health system building framework was used to improve the uptake of maternal retesting: Human resources and service delivery through orientation of designated personnel called PMTCT Nurses on the need for retesting; Information through integration of maternal retesting counselling at third trimester, and delivery to antenatal visit health talks; technology through creation of a custom indicator to monitor progress. Implementation of the framework started across all supported sites in

October 2023. Analysis of maternal retesting data among pregnant women in one hundred and seven comprehensive ART site was abstracted from DHIS using Excel from April 2022 to September 2024. A chi-square test was used to assess the significance of the observed trend for those tested and the positives identified.

Lessons learned: A total of 8,333 women were screened within the three years, with a positive screening test of 0.1%. The positives were all linked to antiretroviral therapy. Only 4% of Clients eligible for maternal retesting had testing done. Results showed a statistically significant increasing trend in the number of positives identified over the three years (p<0.01), seroconverted from 1 in 2022 to 2 in 2023 and 4 in 2024, while there was an increase in clients retested within the period from 1120 in 2022 pre-intervention, and this increased to 3400 in 2023, 3813 in 2024 after the intervention.

Conclusions/Next steps: There was an increase in positives identified among women who seroconverted after the initial negative test, with an increasing number of women retested within the same period despite a low coverage of maternal retesting. Maternal retesting needs to be improved while optimizing sustainable approaches across all facilities.

EP0440

Scoping field evaluation of peer-educator-based motivational interviewing on pre-exposure prophylaxis (PrEP) among key populations: a randomized implementation trial in Kisangani, Democratic Republic of the Congo

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Background: Oral pre-exposure prophylaxis (PrEP) is a validated tool for preventing HIV infection. Despite being in full expansion in several sub-Saharan African countries, adherence to PrEP remains mixed in the Democratic Republic of the Congo (DRC).

We herein evaluated in the field whether peer-educator-based motivational interviewing (PEMI) would be an intervention to increase PrEP adherence among users from key populations (female sex workers [FSWs], men who have sex with men [MSMs] and injecting drug users [IDUs]).

Methods: In this randomized non-inferiority trial, eligible participants were offered oral PrEP consisting of emtricitabine/tenofovir disoproxil fumarate (FTC/TDF) and were randomized 1:1 between an intervention group where the PEMI was systematically implemented among PrEP users or a control group with no-PEMI and followed up for 12 months. PrEP adherence was measured by receipt of drug box, self-reported use, observance and compliance with monthly appointments. Observance was based according to standardized observance questionnaire based on the Morisky model.

Results: Among 141 enrolled participants, 126 were eligible and only 113 (intervention [n=62] and control [n=51]) completed the follow-up period. Overall, adherence to PrEP was significantly increased in PrEP users receiving the PEMI (83% *versus* 52%, adjusted RR: 2.3 [95% CI: 1.6-7.8]).

Although there was no difference between the two groups in terms of receipt of the drug box and self-reporting of FTC/TDF use, observance (91% *versus* 62% adjusted RR: 4,3 [95% CI: 1,3-9,9]) and compliance to monthly appointments (88% *versus* 57% adjusted RR: 3,6 [95% CI: 1,7-8,1]) were significantly higher among users of peer-educator-based motivational interviewing.

Regarding inter-group differences in key populations, FSWs were the most adherent to PrEP compared to others, in both intervention and control study groups.

Conclusions: Taken together, these observations highlight for the first time in the cultural context of Central Africa, on the need for psychological support when PrEP is proposed over the long term.

Among the interventions to be implemented, motivational interviewing is a relevant avenue to be explored to facilitate adherence to PrEP in populations with high-risk behaviours, such as key populations.

HIV testing

EP0441

HIV recency testing coverage and partner notification services among newly diagnosed people living with HIV in low- and middle-income countries: a systematic review and meta-analysis

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Background: HIV recency testing provides data that can be used to monitor the trend of new HIV infections. The effectiveness of using people identified with recent infection to identify partners with new HIV infection through partner notification services (PNS) is not well document-

ed. We estimated the pooled prevalence of recency testing coverage, recent infection, reclassification (recent to long-term infection) and PNS cascade among newly diagnosed people living with HIV.

Methods: PubMed, Cochrane Library and Embase were searched for articles published between January 2018 and November 2024. Studies were included if they reported recency coverage and/or PNS among people newly diagnosed with HIV and used recent infection testing algorithm (RITA). Recency coverage was defined as proportion of people tested using rapid testing for recent infection (RTRI) among those newly diagnosed with HIV. RITA further classifies RTRI results using viral load results (≥1,000copies/mL vs <1,000 copies/mL) to confirm recency status. For studies with PNS, we evaluated the cascade: number of partners elicited, successfully contacted, eligible for HIV testing, tested and HIV diagnosis.

PNS effectiveness was measured by proportion of new HIV diagnoses from tested partners. Using random effects models, we computed the pooled estimate of recency outcomes and 95% confidence intervals (CIs).

Results: Sixteen studies from 17-low- and middle-income countries (LMICs) were included, of which 11-reported recency coverage only, 4-reported PNS only and 1-reported both coverage and PNS. Of 276,584 newly diagnosed people living with HIV, 80,383 underwent RTRI with an overall pooled recency coverage of 93%(95%CI 71– 99).

Pooled prevalence of RTRI and RITA recency was 9%(95%CI 7–12) and 5%(95%CI 3–8), respectively. Pooled prevalence of RTRI reclassification was 35%(95%CI 19–55). Of the recent cases who agreed to PNS, 253 partners were elicited with an estimated elicitation ratio of 1:1.6.

Among partners elicited, 99% were successfully contacted, 75% were eligible for testing, 68% tested for HIV, and 15% were diagnosed with HIV.

Conclusions: High recency testing coverage among newly diagnosed individuals demonstrates the feasibility of monitoring new HIV infections in LMIC. While PNS yielded a moderate HIV diagnoses, its targeted approach remains a critical strategy for identifying undiagnosed cases.

EP0442

Catalyzing pediatric treatment coverage through the OVC program between October 2022 – September 2024: a strategic pathway to closing the pediatric anti-retroviral treatment gap in Nigeria

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Background: In Nigeria, the prevalence of HIV among children aged 0–14 years is 0.2%, representing an estimated 130,000–140,000 children living with HIV (CLHIV) in Nigeria. Of these, 34% know their HIV status, resulting in a huge pediatric treatment gap. In October 2022, the U.S. President's Emergency Plan for AIDS Relief introduced the Accelerating Progress in Pediatrics and Prevention of Mother-to-Child Transmission (AP3) program as a multi-prong approach to reach undiagnosed CLHIV. The Orphans and Vulnerable Children (OVC) program was leveraged to accelerate the identification and linkage to treatment of CLHIV in the community. This abstract evaluates the contribution of the OVC program to finding CLHIV.

Description: The OVC program plays a pivotal role in reaching CLHIV who are unaware of their HIV-positive status by utilizing trained community case managers (CCMs) who provide essential services to vulnerable households. These CCMs are strategically positioned within communities, making them effective in identifying CLHIV. Their capacity has been enhanced through training in HIV testing services (HTS) and innovative community-based strategies. CCMs utilize strategies such as family index testing, targeted outreaches, and AP3 congregational testing, ensuring targeted reach to children requiring HIV testing. These activities are coordinated by community-based organizations, which are integral to the OVC program's community implementation framework. To strengthen data collection and reporting, the program supported the development of the OVC module on Nigeria's National Data Repository Lite, a digital platform for data documentation.

Lessons learned: The capacity-building for the OVC case managers to conduct HTS and the availability of the reporting platform led to the OVC program supporting the testing of 216,035 children ages 0–14 years at the community level from October 1, 2022–September 30, 2024, identifying 844 CLHIV. This accounted for 13.2% overall

contribution to pediatric HIV case findings across all the CDC-supported sites during the same period. The findings underscore the benefit of community engagement, HTS training, and leveraging the OVC program reach in closing the pediatric treatment gap.

Conclusions/Next steps: The OVC program's contribution to pediatric HIV case finding through the AP3 model highlights its potential as a game changer in addressing Nigeria's pediatric HIV treatment gap.

EP0443

Low awareness and uptake of HIV self-testing among key populations in Unguja, Zanzibar, 2023

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Background: In Unguja Island, Zanzibar, a 2019 biobehavioral survey (BBS) identified that only 47.5%–72.5% of key populations (KPs), including female sex workers (FSW) aged ≥18 years and sexually exploited girls (SEG) (girls aged <18 years given money or products for sex), men who have sex with men (MSM), and people who inject drugs (PWID), living with HIV knew their status.

To address this gap, the Zanzibar Ministry of Health introduced evidence-based strategies including HIV self-testing (HIVST) services in 2021. Using a BBS conducted among KPs in Unguja, Zanzibar in 2023, we determined uptake of HIVST and willingness to use HIVST services.

Methods: We used respondent-driven sampling (RDS) to recruit KPs aged ≥15 years who lived in Unguja for ≥3 months and met inclusion criteria: FSW/SEG (exchanged sexual intercourse for money in the prior month), MSM (had anal sex with men in the past 3 months), and PWID (injected illicit drugs in the past 3 months). Information on HIVST knowledge, usage, and preference for HIV testing in general was collected through interviewer-administered questionnaires. We report weighted estimates and 95% confidence intervals (CI), accounting for RDS design.

Results: A total of 598 FSW/SEG, 485 MSM, and 455 PWID participated. Overall, 46.3% (95%CI: 42.9–49.8) of FSW/SEG, 29.5% (95%CI: 25.1–34.0) of MSM, and 25.4% (95%CI: 21.1–29.7) of PWID had heard of HIVST.

Among those who had heard of HIVST, 31.0% (95%CI: 25.1–36.6) of FSW/SEG, 23.6% (95%CI: 15.3–32.0) of MSM, and 9.6% (95%CI: 2.6–16.3) of PWID had used HIVST.

Among KPs who had never self-tested and excluding those living with HIV, 70.1% (95%CI: 66.2–75.1) of FSW/SEG, 70.4% (95%CI: 65.4–75.3) of MSM, and 68.6% (95%CI: 64.0–73.2) of PWID would use HIVST if offered to them by peers or healthcare workers.

Conclusions: We found low awareness and uptake of HIVST among KPs in Unguja despite broad interest in using HIVST after being given information. This suggests comprehensive promotion and scaling up of HIVST services could be an effective way to reach and diagnose more KPs living with HIV.

EP0444

Estimating the prevalence of reclassification of *recent* to *long-term* acquisition of HIV-1 using recent infection testing algorithm (RITA) – Tanzania, October 2023–September 2024

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Background: A recent infection testing algorithm (RITA) uses a rapid test for recent infection (RTRI) and baseline HIV viral load (VL) to differentiate recent acquisition of HIV acquired within prior 12 months from longer-term acquisitions. Tanzania started implementing RITA surveillance in 11 regions in August 2023.

We calculated the proportion of RITA long-term reclassification and associated factors among HIV testing services (HTS) clients with RTRI-recent results in Tanzania.

Methods: We included data from consenting HTS clients from 204 of 275 health facilities in mainland Tanzania and Zanzibar collected between October 1, 2023–September 30, 2024, who also met the following criteria: aged ≥15 years; newly diagnosed with acquisition of HIV; with an RTRI-recent result; and available VL results.

Among clients with RTRI-recent results, those with HIV VL ≥1,000 RNA copies/mL were classified as RITA-recent and those with HIV VL <1,000 RNA copies/mL were reclassified as RITA-long term.

We calculated the proportion of RITA-long term reclassification and used frequency-weighted Poisson regression models to calculate adjusted prevalence ratios (aPR) with 95% confidence intervals (CI).

Results: Of 1,009 clients with RTRI-recent results, mean age was 31.4 years (range: 15–78 years) and 785 (77.8%) were women; of those, 358 (35.5%) were reclassified as RITA-long-term. Results adjusted for age, sex, region and testing point showed that RITA long-term reclassification was significantly higher among participants aged 15–24 (aPR: 1.25; 95% CI: 1.04–1.49) and ≥45 years (aPR: 1.36; 95% CI: 1.10–1.67) compared to participants aged 35–44 years; among women (aPR: 1.28; 95% CI; 1.09–1.50) compared to men; among participants who reported sexual partners living with HIV (aPR: 1.18; 95% CI; 1.03–1.36) compared to those who did not; and among male clients reporting sex with other men (MSM) (aPR: 1.72; 95% CI: 1.06–2.78) compared to those with female partners.
Conclusions: Over one-third of clients with RTRI-recent results were reclassified as RITA long-term. This suggests re-engagement into care for individuals with prior HIV diagnosis and a history of anti-retroviral therapy use. Although recency surveillance results are not returned to clients, thorough pre-test counseling screening might identify individuals re-engaging in care.

EP0445

Optimizing Pediatric Index Case Testing outcomes through Pediatric Accelerated Case Finding Effort's (PACE) family tree card

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Background: Despite the effectiveness of active index testing (AIT) in increasing HIV testing services, AIT uptake remains lower among children than adults in Malawi. To close this gap and to increase pediatric HIV testing, the Pediatric Accelerated Case Finding Effort (PACE) used a family tree card to provide a line listing of all children of mothers with HIV being seen in the HIV antiretroviral therapy (ART) clinic. We evaluated the impact of PACE on HIV testing uptake in children and adolescents in Thyolo District Hospital.
Methods: This rapid evaluation used secondary data from HIV testing registers in high-volume facilities, focusing on children and adolescents aged 0–15 years. Outcomes of access to AIT services and HIV testing were compared between pre-intervention (October 2023–March 2024) and post-intervention (April–September 2024) periods. Data were abstracted into DHIS2, and statistical analysis was conducted to calculate proportions and assess associations. Chi-square tests were used, with p-values <0.005 considered significant.
Results: We compared child index testing among 7,445 mothers with HIV seen in ART clinics in the pre-intervention period and 7,470 in the post-intervention period. The proportion of women offered pediatric index testing increased significantly by 62%, from 23% (1,732/7,445) pre-intervention to 85% (6,321/7,470) post-intervention (p<0.001). The number of child contacts elicited rose dramatically, from 1,463 pre-intervention to 7,253 post-intervention. Among women with HIV with children who were not previously tested, 97.3% (3,589/3,689) in the post-intervention period and 99.4% (1,275/1,283) in the pre-intervention period underwent screening (p<0.001). Absolute numbers indicated a significant improvement in child index testing coverage, with 1,256 contacts tested pre-intervention compared to 3,059 contacts post-intervention. The number of children diagnosed with HIV was similar in the pre-intervention and post-intervention periods (19 and 18, respectively); all children identified as HIV-positive were linked to treatment.
Conclusions: The findings demonstrate that PACE, leveraging the family tree card intervention, is an effective strategy to enhance pediatric HIV testing, significantly increasing HIV testing uptake among children and adolescents of women with HIV on ART. This approach offers a scalable solution to address gaps in pediatric HIV testing, accelerating progress toward the 95-95-95 goals in high-burden settings.

EP0446

Navigating HIV realities for testing insights and trends in Manicaland, eastern Zimbabwe: breaking the barriers for testing

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Background: HIV testing remains crucial for epidemic control. Despite extensive effort implemented to improve access to testing in Zimbabwe, economic and cultural barriers hinder uptake.
This study aims to examine trends in HIV testing uptake, identify barriers to care, and assess awareness and usage of HIV self-testing (HIVST).
Methods: We conducted community surveys in Eastern Zimbabwe from 2018-2023. Study sites were categorized by socio-economic zones: tea estate, rural/village, forestry area, town, roadside settlement, and urban.
Data on socio-demographic characteristics, HIV testing status, perceived barriers to HIV testing, and HIV self-testing (HIVST) knowledge were collected from 26,925 participants.
Results: Between 2018 and 2023, the percentage of individuals reporting that they had never tested for HIV decreased by 32.4% in males (from 21.9% to 14.8%) and by 39.0% in females (from 15.4% to 9.4%). Never testing was most commonly among under-18-year-olds, (from 33.2% in 2021 to 47.6% to 2023, p<0.001).
When analyzing the data by the type of community, the highest non-testing rates by 2023, were found in urban communities (15.7%), while the lowest were in forestry

estates (5.4%). For each perceived barrier to HIV testing, males were three times more likely to report than females (18.9% versus 6.3%; AOR: 3.62, 95% CI: 3.12-4.22, p<0.001). Main perceived barriers were "lack of privacy" and "judgmental staff" for both genders. During the COVID-19 pandemic, perceived barriers increased from 8.2% in 2018-2019 to 10.7% in 2021, with "judgmental staff" (13.2%) and "travel difficulties" (12.2%) the most reported barriers. By 2023, reporting any of perceived barriers had returned to pre-pandemic levels (8.7%). HIVST usage more than doubled between 2018-2019 and 2022-2023, rising from 0.8% to 3.9% in males and from 0.5% to 5.7% in females. In 2023, usage of HIVST was highest among 18-45-year-olds (7.4%) and lowest in those over 45 (2.2%) (p<0.001). However, higher HIVST knowledge did not correlate with higher usage across gender and study site.

Conclusions: Gender disparities in perceived barriers to accessing HIV care persist, with males perceiving more challenges. Despite increased awareness, HIVST uptake remains low, particularly among men and older individuals. Addressing these barriers among men is critical to improving HIV care access.

EP0447

The role of community-based organizations in Kazakhstan's HIV testing

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Background: HIV case finding and linkage to treatment are key challenges in Kazakhstan's HIV response. Community-based organizations (CBOs) are working closely with local communities to improve detection and support HIV efforts. The Meeting Targets and Maintaining Epidemic Control (EpiC) project in Kazakhstan supports epidemic control through innovative testing approaches. EpiC supports CBOs to provide HIV testing and treatment in a stigma-free environment, critical for serving at-risk populations. We sought to determine whether there are differences in the client populations served by CBOs vs. facilities for HIV testing in the Pavlodar and East Kazakhstan oblasts.

Methods: Using electronic databases of EpiC and the Kazakh Scientific Center for Dermatology and Infectious Diseases, we abstracted sociodemographic data, HIV risk characteristics, and HIV testing location for all adult clients diagnosed with HIV between October 1, 2020, and May 31, 2024. Using descriptive statistics and logistic regression modeling, we characterized clients by HIV testing location, using adjusted odds ratios (aORs) to quantify differences.

Results: In total, 2,971 people were diagnosed with HIV during the analysis period, with 674 clients (22.7%) diagnosed at CBOs. There was no difference in gender distribution between CBOs and facilities. In the multivariate model, we found EpiC CBO sites were more likely to reach people who identified as belonging to at-risk populations (aOR=1.56, 95% CI: 1.13–2.16, p=0.007), reported sexual contact with an HIV-positive person (aOR=1.53, 95% CI: 1.27–1.85, p<0.001), or reported drug use in the last 12 months (aOR=1.49, 95% CI: 1.06–2.08, p=0.02). Clients seeking care at CBOs were less likely to be employed (OR 0.64, 95% CI: 0.53–0.79, p<0.001) and less likely to have tested for HIV in the past (aOR=0.86, 95% CI: 0.74–0.99, p=0.04). After testing positive, CBO-supported clients were more likely to start treatment (aOR=2.99, 95% CI: 1.99–4.49, p<0.001).

Conclusions: CBOs may be able to identify clients with risk profiles different from those identified by health facilities. As countries work toward closing critical HIV testing and treatment gaps, collaboration with local CBOs may be important in reaching those who might not be reached by traditional facilities.

EP0448

Decentralizing the distribution of HIV self-testing kits to improve index testing at Nambale Health Centre III, Iganga District East Central Region

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Background: Ministry of health in 2022 rolled out new HIV self-testing approaches to enhance HIV testing services. With over 54,000 new HIV cases registered in FY 2021/22, MOH through the Aids control program scaled up assisted & non assisted HIV self-testing approaches to enhance HTS and support finding of the un identified cases but also cut down the continuous chain of transmission.

By the end of December 2023 Nambale HC III was performing sub optimally at 0% of the annual target of HIV index testing/positivity due to self-stigma among elicited partners who were fearing to pick HIV self-testing kits from the facility after being notified of their potential risk, long distances to the facility as they lacked transport.

Methods: We mapped drug shops within our facility's catchment area through Village Health teams and other community resource persons.

Visited all drug shops and ascented to the distribution of HIV self test kits through their facilities and trained staff on usage.

We then Distributed self-testing kits together with improvised registers to all mapped drug shops.

All clients who consented to assisted and provider notification and were unable to access the health facility were directed to the mapped drug shops for HIV self-testing services after which all reactive results were referred to the facility for confirmation using the national HTS algorithm.

Results: Nambale HC III was able to identify 27 HIV positive clients through the index testing modality having implemented the decentralized distribution of self-testing

kits through drug shops with 7 of the cases identified in Quarter two FY 23/24, and 10 each in Quarter three and Quarter four of the same year.

Conclusions: Decentralizing HIV self-testing kits distribution at Nambale HC III demonstrated a significant impact on HIV case identification through index testing modality with 27 positives identified over a period of 9 months. This initiative not only increased access to testing in the community but also empowered individuals to take charge of their own health.

Scaling up this initiative to reach additional communities can potentially increase the number of individuals benefiting from HTS but also close the existing gap to the UNAIDs 1st 95

EP0449

Advancing PMTCT uptake integrating HIV screening into general health systems: evidence from the community led AHANA project supported by GFATM in 13 Indian states

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Background: While India has made a significant progress in arresting and reversing the HIV epidemic, testing coverage of pregnant women remained very low in many states during 2015. Evidence suggests access to HIV testing remained very low at 34% in the 13 Plan India project states with an estimated annual pregnancy of 14 million per year. Complementing Govt. of India's NACP, Plan India has been implementing AHANA project supported by The Global Fund towards attaining Elimination of Mother to Child Transmission.

Description: Three-fold approach adopted;

a) investing in the capacities of community health worker,

b) advocacy for procurement of Kits and ensuring a smooth supply of kits- consumables and;

c) capacity strengthening at the general primary health care facilities towards services provisioning and effective reporting.

While at the supply side more than forty thousand periphery level Govt. health workers were trained to carry out Whole Blood Finger Prick Testing (WBFPT); rigorous advocacy with Govt. at the national level as well as at the local level to ensure procurement and uninterrupted supplies of kits and consumables.

Lessons learned: HIV testing among pregnant women in the project states increased from 34% during 2016-17 to 92% during 2023-24. Proportion of peripheral HIV testing carried out at the sub district level has increased from 35% to 80% suggesting increased access of HIV testing among the pregnant women in village and rural areas.

Twenty-five thousand primary health facilities activated with HIV testing compared to 6 thousand before the project initiated. This has resulted in 25% increased identification between the periods of 2016-17 to 2023-24. More than 30 thousand pregnant women were identified as HIV positive, linked to ART services and followed up for care and support during the period 2016-24. A total of 16 thousand babies confirmed as negative after receiving confirmatory tests at 18 months.

Conclusions/Next steps: Capacity infusion among primary health care workers has resulted in HIV testing available at the peripheral health facility taking HIV testing at the doorstep of pregnant women. With HIV positive pregnant women linked to treatment cascade, PMTCT access improved significantly. Plan India's AHANA project shows roadmap towards achieving EMTCT.

EP0450

Empowering young female sex workers: the impact of postnatal clubs in preventing mother-to-child transmission of HIV

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Background: The introduction of ART medication has significantly reduced deaths attributed to AIDS as well as HIV transmission. Despite this progress, non-adherence to ART remains a barrier to achieving the maximum benefits especially that of elimination of mother to child among young female sex workers in Uganda.

Description: Out and Proud implemented a pilot study on the postnatal adherence club model at four drop-in centres in four districts of Kampala,Kabarole,wakiso and Mukono for pregnant and breastfeeding young female sex workers aged 15-24 years.

The primary objective of this model was to prevent the transmission of HIV from mother to child within the sex worker community but also support early infant diagnosis of HIV. Each postnatal adherence club consisted of 8 mother-infant pairs.

Adherence club meetings were facilitated by a midwife, a peer mother, and a counsellor. After each session, the clinician at the DIC provided an integrated comprehensive prevention of mother-to-child transmission (PMTCT) services. These services included maternal ART, cotrimoxazole refills, Nevirapine syrup, immunization, HIV counselling, and laboratory monitoring.

Lessons learned: A retrogressive analysis of the DIC data from January 2022 to December 2023 indicated that 64 young female sex workers were enrolled on the program. An 18-month retention rate of 100% from all the sex workers who gave birth from the DIC and were initiated in the adherence club was registered. Viral loads were monitored for all the mothers after 18 months, with a suppression rate of 100% and were still suppressed by end of December 2023. All the infants in the clubs were declared HIV negative after 18 months.

Conclusions/Next steps: Enrolling young female sex workers in postnatal adherence clubs after giving birth is a promising opportunity to improve post-delivery rates and outcomes for young female sex workers who initiated antiretroviral therapy during pregnancy.

EP0451

Exploring experiences with HIV self-screening among women using PrEP in South Africa: implications for HIV prevention

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Background: Women are disproportionately affected by HIV, with young women facing the greatest vulnerability. Despite the availability of prevention and testing services, barriers to HIV testing persist. HIV Self-Screening (HIVSS) has emerged as a pivotal tool in HIV prevention, giving individuals autonomy and confidentiality while addressing barriers to testing such as stigma and clinic avoidance. This paper explores experiences with the integration of HIVSS kit distribution among women using PrEP.

Methods: In April and May 2024, we conducted 12 focus group discussions (FGDs) with 126 women, aged 18–57, past and present pre-exposure prophylaxis (PrEP) users. Participants were recruited from participants enrolled in an implementation study cohort, evaluating the introduction of new PrEP methods within integrated sexual and reproductive health (SRH) services at six primary healthcare facilities in Gauteng and Eastern Cape provinces, South Africa.

As part of routine project activities, HIVSS kits were distributed to clients accessing HIV prevention services at the facility and mobile hotspots, with the intention of secondary distribution to partners and peer networks.

We conducted a thematic sub analysis to explore experiences with HIVSS among women using PrEP. The FGDs were audio recorded, transcribed verbatim, and translated into English for analysis.

Results: Participants highlighted multiple benefits of HIVSS, including convenience, privacy, and its role in encouraging partners to test who might otherwise avoid clinic-based services. HIVSS was regularly shared with partners, allowing joint testing and fostering relationship transparency. Joint testing experiences enabled open communication, as partners often disclosed and compared results.

Some participants noted that self-tests helped ease their partner's anxiety around testing. While self-tests offered convenience, there were concerns about how individuals might react to their results and the potential need for follow-up support.

Conclusions: HIVSS is a transformative addition to HIV prevention strategies, promoting accessibility, shared responsibility, and increased testing uptake. Its success in encouraging testing among reluctant individuals highlights its potential for expanded integration into community-based HIV prevention programs.

Nevertheless, these experiences underscore the importance of including guidance on handling test results, ensuring emotional support, and providing clear guidance to confirmatory testing and care.

EP0452

Who is not testing for HIV and why? Insights among transgender people in India

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Background: Transgender populations in India bear a higher HIV burden (3.8% prevalence) compared to general populations (0.2% prevalence) and face immense discrimination. To consider how HIV prevention services can improve reach to transgender communities, we explored factors associated with prior HIV testing and reasons for never testing among transgender people in three high-HIV burden states.

Methods: Individuals ≥18 years whose gender did not align with the sex assigned at birth were recruited using respondent driven sampling (RDS) for an interview-administered survey in Telangana, Maharashtra, and Uttar Pradesh, India in 2022.

Summary statistics and reasons for never testing incorporated RDS-II weights. We examined associations with prior HIV testing using logistic regression.

Results: Among 1,998 respondents (mean age 29 years); 36% from Telangana, 43% from Maharashtra, 21% from Uttar Pradesh; 65% identified as transgender, 28% as Hijra, 6% as women, and 1% as men. Half (47%) were never tested for HIV.

In a multivariable model including sex behaviors, mental health, network size, and demographics, correlates of HIV testing included Hijra identity (aOR:0.74, 95%CI: 0.59-0.94) versus transgender and Maharashtra state (aOR:0.68, 95%CI: 0.52-0.90) versus Telangana. Those reporting 50-99 (aOR:1.69, 95%CI: 1.05-2.74) or 100+ (aOR:2.03, 95%CI: 1.39-2.96) lifetime sex partners, compared to 1-9, were more likely to test.

Respondents with a little anxiety/depression (aOR:0.63, 95%CI: 0.48-0.82) or a lot (aOR:0.41, 95%CI: 0.28-0.60) versus none were less likely to test. Respondents with a larger network size (50-99 [aOR:2.59, 95%CI: 1.86-3.61] or 100-199 [aOR:2.44, 95%CI: 1.77-3.37]) compared to 0-49 were more likely to test. The most cited reasons for never testing were never hearing of HIV (30%), no/low risk perception (34%), and privacy concerns (35%).

Among those unaware of HIV, 71% were from Uttar Pradesh and 13% reported past stigma in healthcare. Among those with no/low risk perception, 65% were from Maharashtra and 52% had ever sold sex. Among those with privacy concerns, 95% were from Telangana and 68% were limited a lot by anxiety/depression.

Conclusions: Learnings can inform HIV testing services to consider differences by geography and gender identity/community affiliation. Findings also suggest that social networks could be leveraged to promote HIV testing while simultaneously addressing mental health barriers.

EP0453

Served the underserved-improving HIV response among transgender individuals in Kasur, Pakistan

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Background: HIV remains a significant public health concern in Pakistan, particularly among key populations such as transgender individuals, transgender sex workers, and the Khawaja Sira (indigenous) community. These groups face stigma, exclusion from mainstream healthcare services, and discrimination, exacerbating their vulnerability to HIV.

Description: The Khawaja Sira Society conducted an assessment of HIV prevalence among 1,500 transgender individuals in Kasur city, analyzing data from 2023-2024. Using a mixed-methods approach, the assessment captured socio-demographic factors, sexual practices, HIV awareness, and healthcare access, barriers, experiences, providing a comprehensive understanding of the HIV situation among this vulnerable population and how to improve it.

Lessons learned: HIV Prevalence and Risk Factors: A significant HIV prevalence (14.7%) was found among participants, linked to high-risk behaviors (multiple sexual partners, unprotected sex), limited awareness about STIs (57.4% had never heard of STIs), and inadequate use of preventive measures (condom use was reported by only 27.5% of participants).

Barriers to Healthcare: Discrimination (71.2%), fear of disclosure (56.3%), and stigma (53.1%) were significant barriers to accessing healthcare services. Many participants reported experiencing harassment, denial of services, or substandard care due to their transgender status.

Community-Based Support: The involvement of the Khawaja Sira Society enhanced trust and participation, highlighting the importance of community-driven initiatives. Community-based organizations can play a vital role in promoting HIV awareness, providing stigma-free services, and advocating for the rights of transgender individuals.

Education Gaps: Limited knowledge about HIV transmission (42.1% believed HIV could be transmitted through casual contact) and prevention (35.6% reported never using condoms) underscored the need for well-developed educational programs targeting transgender individuals.

Conclusions/Next steps: Expand Access to Stigma-Free HIV Testing and Treatment: Services should not be limited to community-based organizations.

Implement Differentiated Services Delivery Models: To counter stigma and improve access to healthcare.

Develop Community-Led Awareness Campaigns and Educational Initiatives: To improve knowledge and reduce risky behaviors.

Strengthen Partnerships: Between healthcare providers and organizations like the Khawaja Sira Society to build trust and enhance outreach efforts.

Focused action is essential to improve health outcomes and reduce HIV prevalence among this vulnerable population. By implementing these recommendations, we can better address the HIV response among transgender individuals in Kasur, Pakistan.

EP0454

Disproportionate burden of HIV among women of reproductive age in camps for conflict-affected internally displaced persons in northeast Nigeria

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Background: Armed conflicts, which frequently occur in Nigeria's northeastern region, likely contribute to HIV transmission among affected populations. However, in many African countries, displaced people are often not included in national strategic plans to end the HIV epidemic.

Here, we assessed HIV prevalence, uptake of HIV testing services (HTS), and risk factors associated with HIV testing and acquisition among reproductive-age girls and women residing in camps for internally displaced people (CIDPs) in Northeast Nigeria.

Methods: Female participants aged 15-49 years living in CIDPs were enrolled in this cross-sectional, mixed-methods study. Participants completed a semi-structured, interviewer-administered questionnaire (n=700), were offered free HIV testing, and a subset engaged in 4 focus group discussions (n=34).

Qualitative data from 8 key informant interviews with government officials, community leaders, and health professionals were also obtained. Descriptive statistics were used to determine the uptake of HTS and the prevalence of HIV acquisition.

Predictors of HTS uptake and risk factors associated with HIV acquisition were assessed using multivariable logistic regression. The qualitative data was analysed manually using thematic content analysis.

Results: 600 respondents agreed to receive HTS (85.7%). HIV prevalence was 31/600 (5.2%) compared to 2.7% among the non-displaced population in the surrounding region. Predictors of HTS uptake were higher educational level (aOR=2.44, p_{adj}=0.035), duration in camp ≥ 12 months (aOR=0.57, p_{adj}=0.049), and history of sexual violence (aOR=5.440, p_{adj}=0.029).

Widowed relationship status (aOR=5.58, p_{adj}=0.001) and alcohol intake (aOR=0.361, p_{adj}=0.015) were predictors of HIV acquisition.

Barriers to uptake of HTS identified by respondents were fear of stigma and discrimination, unavailability of testing services in CIDPs, distance to health facilities, and cost of testing and other related healthcare services.

Conclusions: HIV prevalence among displaced females in Northeast Nigeria was higher than the general population. While most girls and women enrolled in this study agreed to HTS, significant barriers prevent access to HIV diagnostic services for reproductive-age females affected by regional conflict and displacement.

These findings support the inclusion of CIDPs in national HIV strategic programs of middle- to low-income countries to reduce the burden of HIV among displaced women and to prevent HIV transmission within conflict-affected communities.

EP0455

Meeting the first "95-95-95" target: adoption of HIV self-testing among at-risk gay, bisexual and other men who have sex with men in Taiwan

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Background: Taiwan has not yet met the UNAIDS 2030 targets, with a cascade of "91-96-95" in 2023. To increase testing rates, HIV self-tests (HIVST) were introduced by Taiwan Centre for Disease Control in 2016; however whether at-risk gay, bisexual and other men who have sex with men (GBMSM) utilize this novel method remains unclear.

Methods: Between November 28th-December 28th2023, a survey comprising 65 questions was administered online to adult GBMSM using social networking applications in Taiwan. Beyond demographics, HIV serostatus, risk behaviors, diagnosis of STIs, uptake of PrEP and other biomedical preventions, the respondents were asked if they have received any HIV tests and, if yes, HIVST in the past 12 months. Respondents were defined "at-risk" if they reported more than one male sexual partner in the past 12 months, condomless anal intercourse (CAI) in the past 3 months, STIs in the past 12 months, or chemsex in the past 3 months.

Results: In total, 1,110 responses are included in the analysis (mean age =34.0 years, SD 8.2). One-quarter received no HIV test in the past 12 months (non-testers), whereas 40.5% were recent testers without using HIVST (conventional testers) and 34.5% with HIVST (self-testers).

A substantial proportion of non-testers reported risk factors such as having more than six male sexual partners (19.9%), CAI (58.8%), STIs (8%), and chemsex (3.2%), although significantly lower than conventioanl and self-testers.

There was a significantly lower proportion of non-testers taking PrEP (4.3%), had received mpox vaccination (30% for any dose), HPV vaccination (18.4% for any dose), or using doxy-PEP (0.7%), compared to conventional testers (37.1% for PrEP, 67.8% for mpox, 44.7% for HPV, 3.8% for doxy-PEP) and self-testers (34.2% for PrEP, 63.2% for mpox, 42.6% for HPV, 2.9% for doxy-PEP). Multivariable logistic regression showed self-testers were younger (aOR: 0.75, 95% CI 0.56-1.00 for age >35 years) and less likely taking PrEP daily (aOR: 0.40, 95% CI 0.19-0.79) compared to conventional testers.

Conclusions: Although HIVST has been implemented in Taiwan nationwide, its utilization by key populations is far from universal. Modifying strategies to reach at-risk individuals not receiving conventional testing or HIVST is essential.

EP0456

Maximizing multi-modality case finding approaches among children in high HIV prevalence settings: a retrospective programme analysis in 15 USAID-PEPFAR supported districts in South Africa

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Background: With the largest pediatric HIV epidemic globally, South Africa utilizes age-tailored multi-modality testing approaches to identify children living with HIV (CLHIV) who remain undiagnosed. Within the framework of provider-initiated testing (PITC), there is a growing emphasis on birth and 6-months testing for exposed infants, universal testing of all children at 18-months, and index testing. We examined the scale of implementation of these approaches.

Description: We conducted a descriptive program analysis of HIV case-finding among CLHIV identified through various modalities between 2017 and 2024. Program data were sourced from health facilities across 15 USAID/PEPFAR-supported districts, and triangulated with NAOMI HIV estimates. Descriptive statistics were produced and data visualized using Tableau version 2023.2.

Year	Annual CLHIV Estimate	CLHIV of known status (%)	No. of children receiving HIV testing via PITC modality §	No. and proportion (%) of CLHIV identified via PITC §	No. of children receiving HIV testing via Index testing §	No. and proportion (%) of CLHIV identified via Index testing §	No. and proportion (%) of children receiving HIV testing at 18 months of age ø	No. and proportion (%) of infants receiving HIV testing at birth ø
2017	122,952	95,863	4,414	167 (3.78)	4	1 (25)	-	-
2018	*	-	270,130	5,044 (1.87)	7,586	510 (6.7)	-	-
2019	*	-	477,114	6,513 (1.37)	20,303	1,113 (5.5)	755,547 (0.6)	238,392 (0.59)
2020	*	-	415,001	4,188 (1.01)	28,428	1,199 (4.2)	762,695 (0.55)	281,619 (0.70)
2021	*	-	388,390	2,070 (0.53)	41,538	1,126 (2.7)	724,271 (-)	208,600 (0.89)
2022	78,442	67,015	558,067	2,104 (0.38)	55,238	1,038 (1.9)	791,896 (0.3)	304,306 (0.64)
2023	67,961	58,428	651,012	1,918 (0.29)	58,058	1,033 (1.8)	791,730 (0.3)	352,827 (0.66)
2024	62,532	53,888	720,011	1,615 (0.22)	53,363	880 (1.6)	-	-

*No district-level HIV Estimates available for year. § PEPFAR annual data (October to September of the following year). ø South Africa National Department of Health annual data (April to March of the following year)

Lessons learned: The number of children tested across all modalities increased annually from 2018 to 2024, with a six-fold increase in index testing (2018: 7,586; 2024: 53,363) and nearly 3-fold increase in PITC (2018: 270,000; 2024: 720,011). HIV positivity rate decreased by 88% in PITC (2018: 1.9%; 2024: 0.2%) for the same period and by 75% in index testing (2017: 7%; 2024: 2%). Universal testing at 18 months of age increased steadily from commencement in 2019 (2019: 755,547; 2024: 791,730), with halving HIV positivity (2019: 0.6%; 2024: 0.3%). Birth testing increased by

48% between 2019 and 2024 (2019: 238,392; 2024: 352,827). Subsequently, the proportion of CLHIV with known status increased from 78% in 2017 to 86% in 2024.

Conclusions/Next steps: The increase in differentiated age-tailored testing approaches resulted in narrowing the gap of CLHIV of unknown status from 22% in 2017 to 14% in 2024. In high prevalence settings, when institutionalized within a strong primary health care system, these approaches can be a key sustainable approach in closing the remaining gap of CLHIV with unknown status. More resources are needed to enhance monitoring of service coverage towards finding all CLHIV.

EP0457

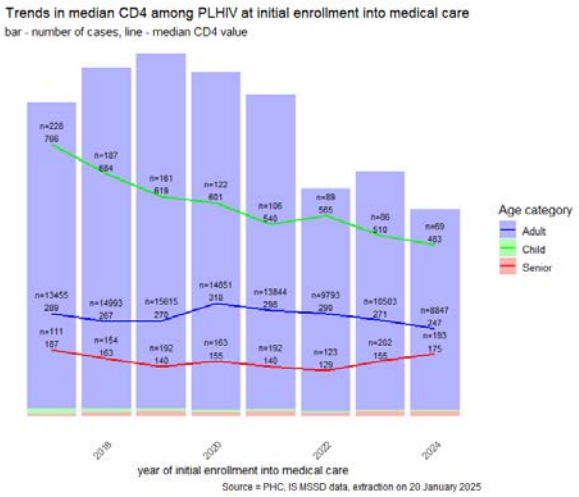
Trends in median CD4 level among PLHIV at initial enrollment into medical care in Ukraine: implications for organizational measures in HIV detection

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Background: Timely HIV detection remains a critical challenge for public health systems worldwide. Delayed diagnosis results in the late initiation of ART, leading to poorer health outcomes and increased transmission risks. Late diagnosis is associated with higher morbidity, mortality, and healthcare costs, underscoring the urgent need to enhance testing strategies. The median CD4 level at the time of initial enrollment into medical care serves as an indirect indicator of the effectiveness of current HIV testing interventions.

Description: This study analyzes the trends in median CD4 level across different age groups over the period 2017–2024 and includes CD4 results of all PLHIV registered in Ukraine. PLHIV were categorized based on age at the time of registration into three groups: children (0–17 years), adults (18–64 years), and seniors (65 years and older).

The data were sourced from the national database of PLHIV, managed within the National Information System of Socially Significant Diseases (IS SSD).



Lessons learned: The data reveal a consistent decline in the median CD4 cell level, particularly among adults and children, indicating late HIV diagnosis within these populations. The observed decline in median CD4 level among newly registered PLHIV suggests that a significant proportion of individuals enter care at an advanced stage of immunosuppression. These findings highlight concerning trends that necessitate immediate organizational interventions.

Failure to implement timely interventions presents several critical risks, including:

- Increased incidence of opportunistic infections and AIDS-related complications.
- Greater burden on healthcare systems due to the demand for intensive treatment.
- Social and economic consequences, including loss of productivity and increased disability.

Conclusions/Next steps: The current trends in median CD4 level across different age categories indicate an urgent need to revise existing HIV testing approaches in Ukraine. Implementing comprehensive, patient-centered strategies can improve early detection rates, reduce HIV-related morbidity, and enhance overall public health outcomes.

EP0458

Resilient pediatric and adolescent HIV testing services in conflict settings: strategies and successes from Borno State, Nigeria

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Background: Delivering HIV testing services (HTS) in conflict-affected Borno State, Nigeria presents challenges due to insecurity, infrastructure limitations, and stigma. This abstract shares lessons from implementing differentiated HTS (DHTS) under the PEPFAR/USAID-funded Accelerating Control of HIV Epidemic in Nigeria Cluster 1 (ACE-1) project. The project incorporated innovations (cluster model, Incident Command System[ICS], and partnerships with health actors and the government) to expand HTS access and improve care continuity.

Description: ACE-1 implemented DHTS from March 2022 to September 2024 through facility-based (provider-initiated testing and counseling, genealogy testing, early infant diagnosis), community-based (internally displaced people camps, informal health center), and spoke (non-PEPFAR primary health care centers [PHCs], private laboratories) models. Strategies included establishing cluster offices for decentralized service delivery and community trust-building, the ICS for adaptive planning and resource coordination, and partnerships to expand access.

Mobile testing units, pre-stocking supplies, and camp testing addressed security and access challenges, ensuring efficient service delivery. A structured onboarding process for unsupported PHCs expanded service delivery from 12 to 234 sites.

Lessons learned: ACE-1 achieved a 678% increase in year-on-year testing, rising from 25,191 tests in fiscal year (FY) 2021 to 196,040 in FY22. From the inception of ACE-1 project (March 2022) to the end of FY24, 392,079 individuals were tested, of whom 71% were adolescents (ages 10–19 years) and 58% were female.

Among children (ages 1–9) testing HIV positive, 41% were identified through genealogy testing, 25% via community-based testing, and 16% through Outpatient Departments (OPDs).

For adolescents, 37% were identified via community outreach, 28% through OPD, and 15% via index testing. Linkage to antiretroviral therapy remained high at 96.8%, with 98.5% among children.

Key lessons include task-shifting to skilled community counselor testers, flexible testing approaches, and community engagement to reduce stigma. Nongovernment organization partnerships and community structures ensured continuity, while data-driven decisions improved delivery and expanded testing sites.

Conclusions/Next steps: The ACE-1 project demonstrates that DHTS, implemented through collaboration with the Nigerian government, increased HIV testing coverage and care linkage to care among paediatrics and adolescents in Conflict-affected Borno State.

Flexible, community-focused strategies offer a replicable framework for fragile settings, highlighting the role of adaptive programming in overcoming barriers.

EP0459

Improving HIV testing services eligibility rate among youth aged 15-24 years attending outpatient department: a peer-led screening approach from Njombe, Tanzania

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Background: UNAIDS 2023 reports over 60% of 4,000 new HIV diagnosis among adolescent girls and young women occur in Sub-Saharan Africa. Tanzania HIV Impact Survey (2022/23) showed that 20-37% of 15-24 youth are unaware of their HIV status, while HIV incidence rose from 7% in 2017 to 17% in 2023. Project data in FY23Q1 showed only 23% of youth aged 15-24 visiting the outpatient department (OPD) in Njombe region were eligible for HIV testing. Low eligibility is linked to an intergenerational screening approach that discourages youth from disclosing their vulnerability and risky behaviors. In March 2023, USAID Afya Yangu (My Health) Southern Project introduced peer

led screening at OPD in six health facilities to enhance identification of 15-24 youth eligible for testing and subsequent uptake of HIV testing services among 15-24 youth attending OPD.

Description: The project trained 10 peer champions across 6 health facilities in the Njombe region to implement optimized PITC (o-PITC) HIV screening and prevention services using WHO vulnerability tools. The peer champions screened all youth upon arrival at the Outpatient Department (OPD). Data on OPD attendance, HIV risk screening, and testing were recorded in oPITC and HIV testing registers, then documented in the CTC2 database and exported to the data exchange system. A descriptive statistics analysis was conducted, data was summarized into frequency tables per the o-PITC cascade.

Lessons learned: FY24 data from six facilities (Makambako, Lugarawa, Njombe, Uwemba , Kipengere, and Makete hospitals) showed an increase in eligibility rate from 23% to 59% (3,876 / 6,592) of youth 15-24 screened for HIV. This was a 2.5-fold increase in HIV testing eligibility among 15-24 youths compared to FY23Q1 results (23%). Furthermore, OPD screening rate was at 87% (6,592 / 7,576), all 3876 youth were tested for HIV, among those tested, 22 were HIV-positive (1% positivity rate), and all were linked to care and treatment.

Conclusions/Next steps: Engaging youth peers in o-PITC screening among their fellow 15-24 youths has accelerated the eligibility for HIV testing services and improved access HIV testing services. The approach of using Peer Champions is valuable in reaching youth and will be scaled up to other facilities and regions.

EP0460

Assessing Knowledge, Uptake, and factors associated with cervical cancer screening among women aged 25-49 years receiving HIV Testing services in Wakiso District, Uganda: a population-based Study

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Background: Achieving Uganda's national targets for cervical cancer elimination (briefly, 70% of women screened, 90% vaccinated, 70% with precancerous legions treated by 2030) requires scaling targeted high-impact interventions to increase cervical cancer screening uptake. The limited data on women's knowledge and screening uptake at population level in Uganda hampers progress towards achieving these targets. We examined knowledge, uptake, and factors associated with cervical cancer screening among women receiving HIV testing in Wakiso district, Uganda, to inform the design of high-impact targeted community-based prevention interventions.

Methods: A cross-sectional study was conducted in April 2024 among 504 eligible women in Wakiso district, Uganda. Data were collected through face-to-face interviews. Cervical cancer screening uptake was measured dichotomously (past three years, yes/no), while knowledge was assessed using a Likert scale of ten (10) questions adapted from existing literature.

The main predictors investigated included HIV, partner involvement, knowledge of cervical cancer screening and residence, and controlled-for sociodemographic characteristics.

Univariate, bivariate, and multivariable modified Poisson regression models with robust variance were performed using Stata software version 17.

Results: The median age of participants was 30 years (IQR=26-37), with 51.2% living in semi-urban areas. The mean knowledge score for cervical cancer screening was 6.8 (SD=3.2), and 50.8% had high levels of knowledge. One-third (32%) of women had undergone cervical cancer screening, with significantly higher uptake among women living with HIV compared to those without (75.7% vs 28.9%, $p<0.001$). In adjusted models, cervical cancer screening was higher among women living with HIV (aPR= 1.8, 95% CI: 1.3-2.4).

Additional factors associated with higher screening rates included partner involvement (aPR=2.8, 95% CI: 2.2-3.5), high knowledge about cervical cancer screening (aPR=3.6, 95% CI: 2.5-5.0), and residence in an urban area (aPR=1.4, 95% CI: 1.0-1.9).

Conclusions: Women living with HIV are at increased risk of cervical cancer and remain a priority population for routine screening. While this group shows higher screening rates, overall coverage remains inadequate.

Efforts should focus on enhancing cervical cancer screening literacy and integrating screening into community-based HIV testing programs. Strengthening these initiatives can improve screening uptake and contribute to cervical cancer prevention in low-resource settings.

EP0461

Advancing HIV care through quality improvement: a scalable model for frontline healthcare workers in Ekiti State, Nigeria

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Background: In Ekiti State, Nigeria, low HIV testing rates (10%; 114 of 1,140 ANC1 attendees) and limited linkage to treatment among pregnant women contributed to missed opportunities for early intervention and elevated the risk of mother-to-child transmission.

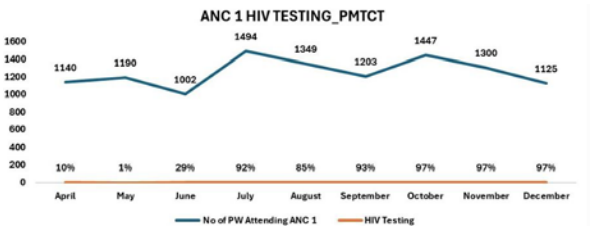
To address these challenges, Jhpiego, funded by the Global Fund, implemented a Quality Improvement (QI) initiative across 120 health facilities in Ekiti, aligned with national and WHO standards, to strengthen health sys-

tem performance in Nigeria. This study evaluates the impact of a PDSA (Plan-Do-Study-Act)-driven QI model on enhancing HIV testing, ART continuity, and maternal health outcomes.

Methods: From March 2024, QI teams, established and supported by Jhpiego and the Ekiti State Health Authority, using a PDSA (Plan-Do-Study-Act)-driven QI model systematically identified service delivery gaps using prioritization matrices and Fishbone analyses, uncovering barriers such as knowledge gap, insufficient HIV test kits, poor documentation, and fragmented care pathways. Targeted change ideas, including service reorganization, improved data tools, and consistent test kit availability, were piloted and refined.

Weekly data reviews and time-series analyses evaluated progress, while competency-based training, continuous mentorship, and peer learning by local and state health authorities to sustain improvements.

Results: By October 2024, HIV testing among pregnant women at first antenatal care (ANC1) visits increased from 10% (114 of 1,140) to 97% (1,116 of 1,151). ART initiation for newly identified HIV-positive cases rose from 9% (6) to 98% (68), and live births among HIV-positive mothers increased from 1 to 10.



Conclusions: These findings demonstrate the transformative potential of a PDSA-driven QI model, rooted in iterative learning, frontline workforce empowerment, and adaptive systems strengthening, for improving HIV outcomes in resource-limited settings.

Scalable and adaptable, this framework offers a replicable model for advancing HIV care and maternal health outcomes in sub-Saharan Africa.

EP0462

Social network strategy testing to improve HIV testing coverage among key populations in Hai Phong City, Vietnam, October 2021-June 2024

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Background: In Vietnam, achieving the target of 95% of people living with HIV (PLHIV) knowing their status remains a significant challenge, particularly among key populations such as men who have sex with men (MSM), people who inject drugs (PWID), and individuals engaged in commercial sex. To bridge this gap, a social network strategy (SNS) testing was implemented alongside other HIV testing modalities from 2021 in five U.S. Centers for Disease Control and Prevention-supported provinces. SNS recruits and trains PLHIV, individuals at risk of HIV to refer their network associates for HIV testing using referral coupons. Based on their HIV status, individuals are linked to appropriate prevention or treatment services. This study evaluated SNS's ability to reach individuals who have never tested for HIV.

Methods: Clients tested through SNS from October 2021 to June 2024 across 10 HIV clinics in Hai Phong were analyzed. We assessed the proportion of clients recruited through SNS who had never been tested for HIV, examining their demographic characteristics, HIV risk exposures, and HIV positivity rates and linkage to treatment or prevention services.

Results: Of 1,770 clients recruited through SNS (28.7% of total tested clients), 1,580 (89.3%) reported never having been tested for HIV. Among these 1,580 individuals, the median age was 37 years, and the majority (1,127; 71.3%) were male. Risk exposure categories included MSM (456; 28.9%), PWID (487; 30.8%), sex partners of PLHIV (345; 21.8%;), women engaged in commercial sex (124; 7.8%), and other risk groups (168; 10.6%). Overall, 6.9% (109/1,580) tested HIV-positive, HIV positivity rates varying by risk group: 14.5% among sex partners of PLHIV, 5.5% among MSM, 3.3% among PWID, 0.8% among women engaged in commercial sex, 10.1% among other groups. Of those who tested positive, 98.2% (107/109) initiated antiretroviral therapy (ART), 24.3% (358/1,471) of those testing negative initiated pre-exposure prophylaxis (PrEP).

Conclusions: SNS can be implemented at health facilities to reach individuals at risk of HIV, particularly those who have not undergone prior HIV testing. SNS also demonstrated its capability to facilitate linking undiagnosed PLHIV to ART and HIV-negative individuals PrEP. Further efforts can be made to improve PrEP use among clients testing negative.

EP0463

HIV self-testing services to hidden key populations through key population led community-based organizations (CBOs) in Yangon, Myanmar

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Background: Myanmar is one of the 35 countries with highest HIV-burdened countries, with an HIV prevalence rate of 0.57% in 2017. HIV testing coverage among key populations was 31% among men who have sex with men (MSM) and transgender (TG), 41% among female sex workers (FSW), and 28% among people who inject drugs (PWID). To increase case detection and improve linkage to care, the HIV/TB Agency, Information and Services (AIS) activity sought and received approval to begin a small demonstration project that introduced an innovative HIV self-testing strategy following the covid-19 and military coup to address the operational challenges related to limited public health facilities and restricted mobility.
Description: AIS implemented the HIV self-testing project to reach the hidden key populations in Yangon, one of the states and regions in Myanmar with the highest burdens of HIV. The project distributed test kits through peers at five CBOs between April 2023 and December 2024 and ensured that testing services were linked with service centers to accelerate care and treatment services through Sate Cha online support.
Lessons learned: From April 2023 to December 2024, the project was able to provide 2503 KPs with access to HIV testing with a result reporting rate (100%). Of these, 139 clients were identified as reactive results, indicating a 5% reactive rate. 119 positive cases were identified, and 105 clients received treatment at ART centers (88% of confirmed tests). 95% of total reactive clients (n=132) were found as first-time testers.
Additionally, the project linked 306 clients among the 2362 non-reactive clients with PrEP services. The results showed that hidden KPs can be reached and linked with ART services through community channels. Challenges included limited-service provision by CBOs, one partner-one township approach, and delays in national-level implementation of HIV self-testing.
Conclusions/Next steps: HIV self-testing distribution can be scaled up through community channels to help the country achieve the global target, the first 95 goals.
Strengthening capacity and continuous monitoring are essential to increase the role of CBOs in service provisions. Strong advocacy and collaboration between CBOs and service centers should be sustained to improve linkage to care.

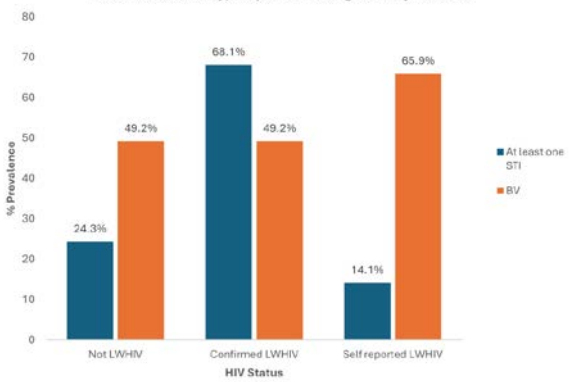
EP0464

Prevalence of sexually transmitted infections and bacterial vaginosis among adolescent girls and young women aged 15 to 24 living with HIV in Lusaka, Zambia

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Background: Adolescent girls and young women (AGYW) living with HIV (LWHIV) may be at increased risk of acquiring other sexually transmitted infections (STIs) and bacterial vaginosis (BV) than those not LWHIV. This study described and compared the prevalence of four curable STIs (chlamydia, gonorrhea, trichomoniasis, and syphilis) and BV among AGYW.
Methods: A cross-sectional survey among adolescents and young people aged 15 to 24 in an urban community (population ~ 200,000) in Lusaka conducted from May-September 2024. Consenting AGYW responded to a questionnaire, provided self-collected vaginal swabs for diagnosis of chlamydia, gonorrhea, and trichomoniasis using GeneXpert, and for BV by Nugent scoring. An HIV/syphilis dual rapid test was offered, reactive syphilis was confirmed by RPR. AGYW were given their results and referred for treatment. This analysis compared the prevalence of STIs and BV among AGYW LWHIV and not LWHIV, and by whether AGYW self-reported their HIV positive status or were diagnosed as LWHIV during the survey.
Results: Among 326 consenting AGYW, 301 (92.3%) tested for HIV or self-reported LWHIV, and provided self-collected samples for STI testing. Overall, 5.0% (15/301) were LWHIV; 60.0% (n=9/15) were diagnosed during the survey. STI prevalence was 24.3% (95%CI 17.2, 31.4) among AGYW not LWHIV compared to 49.8% (95%CI 23.4, 76.1) among AGYW LWHIV (p<0.001); STI prevalence was higher among AGYW diagnosed as LWHIV during the survey compared to those self-reporting LWHIV, with no statistical evidence of a difference (p=0.11; Fig1).

Fig 1: Prevalence of atleast one curable STI (chlamydia, gonorrhea, trichomoniasis, and syphilis) and BV among AGYW by HIV status



Findings were similar for BV; prevalence was lower among AGYW not LWHIV (49.3% 95%CI 42.7, 55.8) than AGYW LWHIV (86.8% 95%CI 69.5, 100; p=0.01)

Conclusions: The burden of STIs and BV was higher among AGYW LWHIV compared to AGYW not LWHIV, with no difference by whether or not AGYW self-reported LWHIV. AGYW LWHIV are an important group for interventions that integrate STI testing and treatment into HIV treatment services.

EP0465

Evaluation of eight HIV rapid test kits: findings from the verification study conducted in Cameroon

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Background: In 2020, Cameroon started the process of transitioning from a two-test to a three-test HIV diagnostic algorithm, aligning with World Health Organization guidelines. To facilitate this transition, the country conducted a verification study to identify suitable three-test combinations from eight WHO-prequalified HIV rapid diagnostic tests (RDTs).

Methods: Blood samples were collected from consenting clients in four health facilities in Yaoundé and characterized using KHB rapid diagnostic tests and INNO-LIA HIV I/II Ag/Ab assays in parallel to select HIV-negative specimens. Two different lots of each rapid diagnostic test (RDT) were used, and each sample was tested by two different operators on each lot to control for inter-lot and operator variability. In total four tests were conducted for an RDT in each sample.

A sample was considered reactive for an RDT if it was reactive on both lots, negative if non-reactive on both lots and inconclusive otherwise.

Results: A total of 172 samples were collected from four healthcare facilities. Following characterization, 147 samples tested negative, from which a panel of 100 negative samples was randomly selected. False reactivity rates among the eight rapid diagnostic tests (RDTs) were as follows: 0% for First Response® HIV 1-2-0 Card Test, First Response HIV1+2/Syphilis Combo, and STANDARD Q HIV/Syphilis Combo Test; 1% for Determine HIV Early Detect and Bioline HIV/Syphilis Duo; 2% for Alere Determine HIV-1/2; and 4% for Rapid Test for Antibody to HIV (Colloidal Gold Device).

The ONE STEP Anti-HIV (1&2) Test exhibited 0% false reactivity in 99 samples, with one sample yielding inconclusive results. Notably, Bioline HIV/Syphilis Duo and Rapid Test for Antibody to HIV (Colloidal Gold Device) both demonstrated cross-reactivity with a single sample, which also showed reactivity in one lot of the ONE STEP Anti-HIV (1&2) Test. The total false reactivity rate was recorded 1.03% (33/3200).

Conclusions: The study identified instances of false reactivity and shared false reactivity among some of the RDTs. These findings underscore the importance of conducting thorough evaluations of RDTs before their integration into HIV testing algorithms to ensure diagnostic accuracy, minimize the risk of misdiagnosis, and maintain the reliability of HIV testing services.

EP0466

The impact of social network-driven interventions on HIV testing uptake among high-risk populations: a Uganda retrospective cohort analysis

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Background: HIV remains a significant global public health challenge. High risk populations such as People Who Inject Drugs (PWID), Men Who Have Sex with Men (MSM) and Female Sex Workers (FSW) are disproportionately affected by constraints accessing HIV testing services because they are marginalized and stigmatized. Achieving widespread HIV testing coverage, especially among high-risk populations, continues to be a critical component in controlling the epidemic.

The aim of this study is to evaluate the impact of social Network driven interventions on increasing HIV testing rates among high-risk populations.

Methods: This study employed a retrospective cohort analysis from January 2023 to December 2024, focusing on social network-driven strategies to increase HIV testing uptake among high-risk populations. Social networking techniques were applied through peer-driven outreaches, in which individuals from these groups who had already undergone testing encouraged their peers to participate.

Additionally, community leaders within these social networks played an active role in normalizing HIV testing and reducing stigma. Social media platforms were also used to spread awareness, address misconceptions, and provide support. The expected outcome was increased HIV testing rates within these populations. The impact of these strategies was assessed using logistic regression.

Results: The study revealed a significant increase in HIV testing uptake among high-risk populations, from 45% to 72%. Peer-driven outreach contributed to a 50% increase in testing among MSM, while community leaders facilitated a 65% rise among FSW. Social media campaigns and local organizations boosted testing among PWID by 40%. Statistical analysis showed that individuals involved in social network-driven interventions had an adjusted prevalence ratio (aPR) of 1.75 (95% CI: 1.32–2.30, p < 0.001)

for higher testing uptake. The 20-24 age group also exhibited a significant rise in testing, with an aPR of 1.45 (95% CI: 1.10–1.92, p = 0.012). FSW had the highest testing rates among the studied populations, with an aPR of 1.68 (95% CI: 1.25–2.26, p = 0.002), highlighting the success of peer-driven interventions.

Conclusions: Social network-driven interventions significantly enhance HIV testing uptake among high-risk populations and their adoption is key in improving HIV testing service coverage in these marginalized populations.

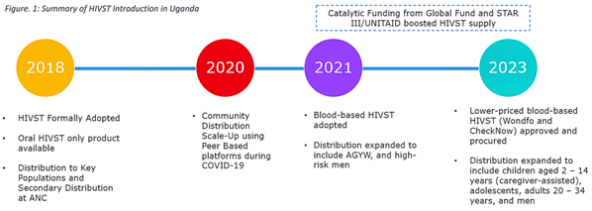
EP0467

Scaling up multiple blood-based HIV self-tests in Uganda: key insights for implementation

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Background: HIV self-testing (HIVST) expands access to HIV testing services (HTS) by addressing barriers such as stigma and accessibility. Currently, most countries have implemented only oral HIVST. Uganda adopted HIVST in 2018, but high costs of early kits ($2.00+ EXW) limited use until 2022, when cheaper blood-based (BB) HIVST kits (≤$1.50 EXW) were introduced, enabling increased procurement within constrained budgets. Leveraging lower-priced kits, Uganda initiated an HIVST scale-up program to enhance HTS accessibility. Uganda stands out as one of the first to adopt and scale multiple BB HIVST products, positioning them well to share valuable considerations for BB HIVST implementation.

Description: In 2023, Uganda introduced two lower-priced BB HIVST kits, Wondfo ($1 EXW) and CheckNow ($1.50 EXW). In 2020, only 3% of all HIV tests distributed in Uganda were HIVST. By 2023, distribution increased over four-fold, representing 12% of all rapid HIV tests. This expansion enabled the introduction of more HIVST distribution channels (Fig. 1)



Lessons learned: Implementing multiple HIVST kits in Uganda highlighted several key lessons:

- **Cost savings**: Introducing lower-cost, WHO-prequalified (PQ) BB HIVST kits allowed for more efficient use of available resources, supporting procurement growth from under 500,000 kits in 2018 to nearly 3 million in 2023 while reducing non-PQ products in the private market.
- **Adaptable supply system:** To ensure early adoption at facility level, supply chain used a 'push' system to send kits to facilities based on pre-determined allocations. This then shifted to a 'pull' system where sites place orders for the new BB HIVST. This highlights the need for flexible systems in scaling HIVST services.
- **Demand Generation:** Sensitization of healthcare workers and communities about new products is critical for increasing awareness and uptake.

Conclusions/Next steps: Scale-up of BB HIVST demonstrated the value of diversified HTS options. To sustain progress, efforts will focus on expanding distribution channels and strengthening M&E systems.

EP0468

Machine guided HIV Screening and testing among adolescents girls and young women compared to manual screening and testing outcomes in Kenya

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Background: Kenya has one of the largest HIV epidemics globally, with women constituting 62% of the 1.3 million people (15+ years) living with HIV. In 2023, Kenya achieved 97% of the 1st 95 of the UNAIDS goals. However HIV knowledge among adolescents and young people (AYP) remains low, at 80%. Kenya needs to adopt targeted testing approaches to close the AYP testing Gap. Mutai, C.K.et all 2021estimated with machine learning 11% of females are at high exposure of HIV infection.

The objective was to identify high HIV identification and prevention strategies among Adolescent Girls and Young Women(AGYW).

Methods: A cross-sectional data review was done on outcomes of machine-aided HIV risk stratification in 84 health facilities supported by the USAID Tujenge Jamii project across 4 counties in Kenya. The program trained healthcare workers on the use of machine-aided HIV exposure screening in health facilities using electronic medical records at the HIV testing points in the general population.

The outcomes were compared to facilities using a manual HIV screening guide. All eligible clients were linked for testing with positive client linked to treatment and clients testing HIV negative with ongoing exposure referred for prevention interventions.

Results: Between October 2023 and August 2024 out of 33,697 clients tested for HIV in the 82 facilities 27,413 (62%) were AGYW aged 10-24 years who were screened using machine learning with 421 (22%)were classified as the highest exposure with a 3% positivity, 2803 (17%)were classified as high exposure with a 0.8% positivity, 8,048(48%) as a moderate exposure with a 0.6% positivity and 5,548 (33%)were low exposure with a 0.4% positivity. This was significantly higher than outcomes from manual screening 12% AGYW screened with a manual questionnaire with 10,419 tested a 0.38% positivity among AGYW in non AI health facilities with 55% Very high exposure and 43% high exposure linked to prevention.

Conclusions: The machine-aided HIV exposure classification has higher HIV positivity than manual screening, ML is a useful tool in improving access to HIV identification and and prevention demonstrating the need to scale up ML in facilities with electronic medical records.

EP0469

Bridging pediatric HIV testing gaps in Ghana: a case for client-centered approaches

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Background: Despite a variety of testing modalities implemented, UNAIDS estimates 1,200 unidentified children living with HIV in three U.S. President's Emergency Plan for AIDS Relief (PEPFAR)-supported regions of Ghana.
This study assesses pediatric HIV testing outcomes in these regions (Western, Western North, and Ahafo) to inform targeted approaches and close case finding gaps.
Methods: We used Microsoft Excel to analyze routine de-identified PEPFAR program data collected from 2021 to 2022. The primary outcome of interest is HIV detection among children younger than 15 years old, disaggregated by testing modality, geographic region, age group, and sex.
Results: There was an overall yield of 5.3% among the 6,643 children tested. Index testing accounted for a fifth (21%) of all tests and yielded the highest positivity (12.0%). Outpatient testing (OPD) produced the lowest yield (2.7%) but was the most widely used testing modality (60.4% of tests). It accounted for over a third (31.5%) of all detected cases, especially in the regions with fewer children tested, Western North (34.3%) and Ahafo (35.7%) (Table 1).

	Index testing, n=1,396 (21.0%)	Community strategies n=534 (8.0%)	Voluntary counseling and testing, n=703 (10.6%)	Outpatient department testing, n=4,010 (60.4%)	Total n=6,643 (100.0%)
Western, n=3,956 (59.6%)	74 (9.3%)	11 (3.3%)	29 (6.7%)	43 (1.8%)	157 (4.0%)
Western North, n=1,483 (22.3%)	57 (17.5%)	4 (3.5%)	10 (7.9%)	37 (4.0%)	108 (7.3%)
Ahafo, n=1,204 (18.1%)	36 (13.3%)	9 (10.5%)	9 (6.2%)	30 (4.3%)	84 (7.0%)
Total yield	167 (12.0%)	24 (4.5%)	48 (6.8%)	110 (2.7%)	349 (5.3%)

Table 1: Case detection by region and testing modality, n (%)

Positivity was highest among children aged 1-4 (6.7%) and 5-9 (5.9%) and lowest among those aged 10-14. Index testing accounted for the highest yield among all ages, except those 10-14, in which voluntary counseling and testing produced a higher yield (5.2% versus 8.1%, respectively).
Although community testing strategies produced relatively lower yield overall, it proved to be an important modality among children aged younger than five years (Table 2). There were not significant variations by gender (data not shown).

	Index testing, n=1,396 (21.0%)	Community strategies n=534 (8.0%)	Voluntary counseling and testing (VCT), n=703 (10.6%)	Outpatient department (OPD) testing, n=4,010 (60.4%)	Total n=6,643 (100%)
< 5 n= 2,734 (41.2%)	99 (18.3%)	10 (10.4%)	19 (5.4%)	49 (2.8%)	177 (6.5%)
5-9, n=1,837 (27.7%)	52 (9.5%)	9 (5.4%)	17 (8.5%)	30 (3.3%)	108 (5.9%)
10-14, n=2,072 (31.2%)	16 (5.2%)	5 (1.9%)	12 (8.1%)	31 (2.3%)	64 (3.1%)
Total positive	167 (12.0%)	24 (4.5%)	48 (6.8%)	110 (2.7%)	349 (5.3%)

Table 2: Case detection by age group and testing modality.

Conclusions: Each modality proved important among distinct regions and groups to detect pediatric HIV cases. Implementing a mix of high yield and high-volume interventions targeting specific sub populations is crucial for pediatric case finding.

EP0470

Targeted approaches for acute HIV diagnosis in rural Eswatini

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Background: Acute HIV infection (AHI) is likely contributing to ongoing HIV transmission, but it is rarely diagnosed in high-burden settings due to difficult and resource-intensive diagnosis. Targeted testing of individuals at higher risk of AHI could improve efficiency and AHI yield.
We used data from a cross-sectional study of STI burden to evaluate the performance of different targeting approaches for AHI testing.
Methods: Consenting adults attending routine HIV testing services at six study sites in rural Eswatini from June 2022 to April 2023 underwent HIV viral load testing (VL, Xpert) and completed a questionnaire on demographic, behavioral and clinical characteristics. AHI was defined as a negative or discordant serial HIV rapid diagnostic test (RDT) together with VL ≥10,000 copies/mL.
We used lasso to identify risk factors for AHI. We plotted and cross-tabulated the sensitivity, specificity and proportion needed to test (PNT) estimates to select the optimal cut-off points.
We evaluated the performance of PRS and different simplified targeting approaches ("AHI symptoms": fever, rash, sore throat, aches and pains, lymphadenopathy, mouth sores and/or headache; PrEP initiation AHI screening criteria ("AHI symptoms" and possible exposure in the past 14 days) and young women (18-29 years old) with AHI symptoms).

Results: Among 1064 participants (median age 27 years (IQR 22–33); 651 (61.2%) female), ten (0.9%) were diagnosed with AHI. The PRS included 10 variables: being female, age 18-29 years, visiting facility for family planning or being sick, and reporting headache, vomiting, genital or mouth sores, blood in urine and discordant HIV RDT result. Performance of the PRS at two thresholds (≥10.8 and ≥14.1) and simplified strategies are summarized in the table.

	PRS ≥10.8	PRS ≥14.1	AHI symptoms	AHI screening PrEP initiation	Young women with AHI symptoms
Sensitivity	100% (69-100)	80% (44-98)	100% (69-100)	40% (12-74)	90% (56-100)
Specificity	74.6% (72-77)	89.2% (87-91)	36.2% (33-39)	61.9% (59-65)	72.7% (70-75)
Area under the curve	0.87 (0.86-0.89)	0.85 (0.71-0.98)	0.68 (0.67-0.70)	0.51 (0.35-0.67)	0.81 (0.71-0.91)
Pos predictive value	3.6% (2-7)	6.6% (3-13)	1.5% (0.7-2.7)	1.0% (0.3-3)	3.0% (1-6)
Neg predictive value	100% (99.5-100)	99.8% (99-100)	100% (99-100)	99.1% (98-100)	99.9% (99-100)
Nb (proportion) to test	278 (26.1)	122 (11.5%)	682 (64.1%)	406 (38.1%)	297 (27.9%)
Nb to test for one AHI	28	15	68	101	33

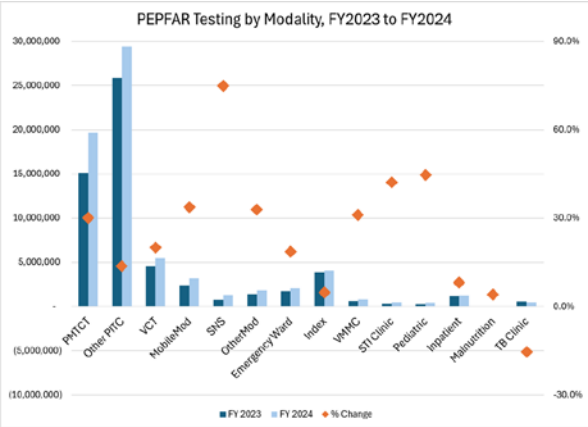
Conclusions: Targeted approaches combining AHI symptoms and locally relevant characteristics may be a way forward to scale-up AHI testing in resource-limited settings. However the current WHO-recommended AHI screening criteria prior PrEP initiation performed poorly.

EP0471

HIV testing scale-up in FY2024 in PEPFAR-supported programs to achieve treatment and prevention goals

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Background: Beginning in COP22 (FY2023), PEPFAR HIV Testing Services (HTS) guidance evolved to focus on HIV testing for prevention in addition to treatment. Targeted case-finding, including social network strategies (SNS) among priority populations, addresses gaps in the first 95. Testing for prevention facilitates the scale-up of PrEP and supports prevention of mother to child transmission (PMTCT) with repeat testing in pregnant and breastfeeding women (PBFW). This analysis quantifies how PEPFAR's evolving priorities are reflected in testing volume across the program.
Methods: We performed a descriptive analysis of PEPFAR program data for HTS and PrEP reported during FY2023 and FY2024, excluding Nigeria due to ongoing data quality efforts. Total testing volume was summarized by age, sex, modality (method or location of testing), and year. A PrEP use testing proxy was built by adding the number of individuals initiated on PrEP and quarterly disaggregates for HIV testing among individuals continuing on PrEP.
Results: Between FY2023 and FY2024, HIV testing volume increased from 58,696,387 to 70,507,520 (20% increase). Testing volume increased by more than 20% in females under 35 and males under 25 years of age. PMTCT testing volume increased from 15,129,650 to 19,681,113 (30% increase), the largest increase by volume among all modalities, driven in part by retesting of PBFW. SNS testing volume increased from 749,362 to 1,311,299 (75% increase), the largest percentage increase among all modalities. [Figure] PrEP testing proxy volume increased from 3,514,674 to 4,801,982 (37% increase).



Conclusions: Testing increases from FY2023 to FY2024 were greatest in modalities central to PEPFAR's goals of case-finding in priority populations (e.g. SNS), and expanding prevention – particularly PMTCT and PrEP.
Increases were concentrated in pediatrics, youth, and women of reproductive age. As PEPFAR-supported countries work to end HIV as a public health threat, testing strategies must continue to evolve to fit the epidemiologic context.

EP0473

Scaling HIV testing for adolescents and young people: does SNS outperform traditional approaches in Zambia?

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Background: In Zambia, 96% of the general population is aware of their HIV status, 85% of these are adolescents and young people (AYP). In 2024, they accounted for 65% of HIV tests performed. (DHIS2, 2024). In 2019, the World Health Organization recommended Social Network Strategy (SNS) to increase HIV testing among populations at high risk of HIV acquisition such as AYP. Zambia's Ministry of Health (MoH) adopted SNS to increase HIV testing among adolescents and young people. MoH collaborated with the Clinton Health Access Initiative (CHAI) to assess the effectiveness of SNS in reaching AYP testing targets.
Methods: CHAI conducted a desk review of HIV testing data for AYP over 12 months (January- December 2024) from seventy health facilities in two districts of Eastern province. Data was categorized into six testing modalities: community, outpatient department (OPD), social

network strategy testing (SNS) voluntary counseling and testing (VCT), sexually transmitted infection (STI), and index case testing. The review sought to establish whether SNS had a greater reach of AYP than traditional testing modalities and the positivity yield obtained.

Results: A total of 35,027 AYP aged between 15 and 34 years tested for HIV during the period, 10,789 (31%) tested through OPD. 24,221 (69%) were female and 10,806 (31%). 8,822 tested (25%) through the community. 7,868 (22%) through VCT. 3,823 (11%) through SNS 2,331 (7%) through Index and 1,394 (4%) through STI. Index case testing had the highest yield of 42%, followed by OPD with 27%, VCT, and community at 10%, SNS at 7%, and STI at 4%.

Conclusions: The findings of this review suggest that MOH must continue to use a variety of testing modalities to test as many AYP as possible. This will sustain the gains achieved in the first 95 of the UNAIDS targets. SNS though recommended to reach more populations with high risk of HIV acquisition did not reach more AYP testing for HIV in this case. The review determined that in AYP, other testing modalities such as OPD, community, and VCT reached more AYP and yielded higher results.

EP0474

Improving access to HIV testing and prevention services among female sex workers through Social Network Strategy (SNS) at Bar Hostess Empowerment & Support Program (BHESP) mowlem dice Nairobi County, Kenya

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Background: The Social Network Strategy (SNS) is an evidence-supported recruitment approach for reaching and providing HIV testing and prevention services to high-risk networked individuals who are unaware of their HIV acquisition. SNS is a cost-effective strategy beneficial for recruiting marginalized and/or hidden persons at risk for HIV, and Key populations are a perfect example due to intertwined reasons such as social stigma, perceived isolation, and legal challenges they face. Despite the advancements in HIV testing and case identification in the general population, Key Populations are still lagging in HIV testing and positive case identification.

Description: Using non-incentivized coupons, existing cohorts referred peers within their social networks—many from previously unserved hotspots—for testing and prevention services. Testing was conducted at these hotspots during outreach events and at the Drop-in Center (DIC) during routine service delivery. Weekly follow-ups by outreach workers enabled tracking and facilitated linkages to additional services.

From October 2023 to July 2024, the project engaged 160 female sex workers, resulting in 875 referrals for HIV testing. Of those referred, 699 (88.4%) were tested, and 53 tested positive, with 100% initiated on ART. Among those testing negative, 93% were linked to prevention services, including PrEP, STI treatment, and Post-Exposure Prophylaxis.

The SNS approach proved twice as effective as standard HIV testing recommendations, contributing to 42% of the total positive cases with an 8% yield. Social network testing has significantly improved HIV testing rates and positive case identification among hard-to-reach key populations by leveraging existing social structures and relationships.

Lessons learned: The Social Network Strategy (SNS) has proven highly effective in identifying HIV-positive cases among Female Sex Workers (FSWs), achieving double the effectiveness of quarterly HIV testing services (HTS) with a higher yield and substantial contribution to total positive cases.

By leveraging social connections, reducing stigma, and improving outreach, SNS successfully reaches hard-to-reach key populations, fostering a supportive environment that encourages testing and links both HIV-positive and HIV-negative individuals to necessary care and prevention resources.

Conclusions/Next steps: Adapt SNS strategies to other public health programs for better engagement and outcomes among marginalized groups

EP0475

Leveraging digital platforms to improve access and utilization of HIV/AIDS services among young people in Uganda

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Background: Uganda faces challenges in achieving the UNAIDS 95-95-95 targets, with only 81% of adults aged 15 and above aware of their HIV status. Young people (10-30 years), contributing to two-thirds of new HIV acquisition, demonstrate limited comprehensive HIV knowledge (51%, UDHS 2022). To address this gap, USAID's SBCA launched "REAL KOOL is Knowing Your Status," a youth-focused campaign promoting stigma reduction and uptake of HIV prevention, care, and treatment services.

Description: From December 2023 to October 2024, the campaign utilized digital platforms, including social media and interactive tools like "Dr. Ezzy," a virtual character offering support via WhatsApp, SMS, and hotline services. Social media influencers, including people living with HIV, enhanced engagement. Partnerships with private sector companies expanded access to HIV self-test kits and condoms, while TV, radio, and print media complemented outreach efforts.

Lessons learned: Leveraging digital platforms effectively increased awareness and access to HIV services among young people, as evidenced by the distribution of 7,500 HIV self-test kits and 11,250 condoms, with 69% of the kits accessed by individuals aged 20-30 and 52% by females. The campaign's "Dr. Ezzy" platforms recorded 80,000 in-

quiries, with males favoring hotlines and females preferring WhatsApp. Additionally, social media engagement exceeded 1.5 million interactions, while radio and TV reached approximately 4 million individuals, highlighting the impact of tailored, multi-platform approaches.
Conclusions/Next steps: Sustained efforts should prioritize enhancing HIV knowledge, addressing low-risk perception, and expanding access to HIV self-testing kits. Inclusive outreach targeting underrepresented groups, like adolescents aged 10-14, and bridging the digital divide through diverse media platforms are critical for scaling up HIV prevention services.

EP0476

Factors associated with of HIV testing coverage among contacts of HIV index clients in Rwanda: HIV case based surveillance data 2019-2022

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Background: HIV/AIDS remains a significant global public health challenge. HIV Case-Based Surveillance (CBS) is a systematic approach to collecting and analyzing data on people living with HIV (PLWH) to inform targeted response efforts based on population and geographic characteristics. Since 2018, the Rwanda Biomedical Centre has implemented CBS and HIV-1 recency testing as part of its epidemic control strategy.
The program involves PLWH aged 18 and above, who provide information on their contacts, including biological children, sexual partners, and social network members. While this data is documented in CBS registers and reported through the District Health Information Software 2 (DHIS-2), not all elicited contacts undergo HIV testing.
This study analyzes HIV CBS data from 2019–2022 to determine the contact-to-index ratio, HIV testing coverage among contacts, and factors associated with non-testing of elicited contacts.
Methods: This study wasa retrospective cross-sectional study analysis HIV CBS data quantitatively. Finally, logistic regression analysis of factors associated with non-testing of elicited contacts was done to determine the strength of the association.
Results: During HIV case-based surveillance (CBS), each index client provided an average of 1.1 contacts. Of the 74,892 contacts elicited, approximately 66% were tested for HIV. The likelihood of being tested was higher among contacts with no history of intimate partner violence involving the index client (aOR: 21.23; 95% CI: 12.32–36.60), those who were married (aOR: 1.37; 95% CI: 1.15–1.60), individuals with 3 to 10 contacts in the past three months (aOR: 1.27; 95% CI: 1.03–1.55), and those currently on antiretroviral therapy (ART) (aOR: 1.5; 95% CI: 1.25–1.79).
Conversely, testing likelihood was lower among married or cohabiting partners compared to other contact-index relationships, such as occasional partners, children, or social network members (aOR: 1.2–1.7). It was also lower among contacts with 21 or more lifetime sexual partners compared to those with 1–2 partners (aOR: 0.52; 95% CI: 0.34–0.79).
Conclusions: This study shows the need to combat HIV related stigma and train HCPs on building trust and safeguarding clients' information confidential especially in countries with low HIV prevalence like Rwanda.

EP0477

Expanding coverage by integrating provider-initiated HIV counselling and testing services at out-patient departments during year 2023 in northeastern India

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Background: The states of Mizoram and Nagaland, India have the highest state adult HIV prevalence (2.73% and 1.37%, respectively), relative to the national prevalence (0.20%). Integration of provider-initiated HIV Counseling and Testing (HCTS) into out-patient department (OPD) of hospitals is recommended under national guidelines.
To describe the uptake of the same OPD screening was initiated during April-July 2023 in two high patient load district hospitals of Dimapur and Aizawl, in Nagaland and Mizoram, respectively.
Description: We sensitized OPD medicine, pulmonary, skin and venereal disease department staff and medical officers on the need to scale up provider-initiated HCTS and trained them on providing HCTS aligned with the national guidelines. All patients seeking care at these OPD were routinely offered HIV testing using an opt-out strategy following the national HCTS guidelines, and those that were reactive were referred for confirmatory testing.
Lessons learned: By September 2024, 5,266 people were tested at these two facilities; 57% (2,991/5,266) were males and 69% (3599/5,266) were < 35 years of age. Of those tested, 77% (4,034/5,266) were first-time testers. In total, 4% (232/5266) were found reactive and most (91%, 210/232) were presenting with minor ailments in the Medicine (164) and Dermatology (46) departments, and 91% (212/232) were confirmed HIV-positive, remaining pending. All 212 were first-time testers and linked for treatment initiation, and 89% (189/212) were started on treatment till Sep 2024. Baseline CD4 tests were done for 70% (149/212) and the majority (55%, 82/149) had CD4 counts > 200 cells/mm^3.
Experience from this exercise showed that in high-prevalence areas, it was worthwhile offering testing to everyone presenting in health care setting, despite not having any HIV-specific symptoms.
Conclusions/Next steps: This approach was effective in reaching undiagnosed males and younger people with testing services. Integration of HCTS at OPD can facilitate detection and linkage of asymptomatic people living with

HIV who would have otherwise been missed during routine screening. The success of this initiative underscores the potential value of expanding HCTS to other sectors in the health care system in terms of HIV case-finding and linkage to treatment. The initiative is being scaled up in all the district hospitals of Nagaland and Mizoram.

EP0478

Targeted social network-based testing during the year 2023 among individuals vulnerable to HIV in Mumbai, Maharashtra, India

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Background: HIV case identification in Mumbai is a challenge, with approximately 17,000 individuals still unaware of their HIV status. Index testing services (ITS) is a proven approach to test people with known exposure to HIV. Testing of sexual partners of people vulnerable to HIV, known as social network-based testing strategy (SNS), was a related approach adapted in Mumbai with technical assistance from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR)-supported project Sashakt for strengthening case detection. It was implemented at 12 high-load HIV Counselling and testing services (HCTS) sites in Mumbai from January to September 2023.

Description: The project offered SNS testing to all those who were at risk for HIV (as per standardised risk assessment under national guidelines (e.g., people with multiple unprotected sexual partners, people who inject drugs) and recently tested HIV-negative at select HCTS sites. During post-test counselling, counsellors encouraged them through a non-coercive voluntary approach to share their partner's details and refer partners for HIV testing at the same or preferred HCTS site.

Lessons learned: Among the 44,910 individuals tested at 12 high-load HCTS sites in Mumbai, 509 (1%) were diagnosed as HIV-positive, and 44,401 (99%) tested HIV-negative. Out of them, 4% (1,644/44,401) were identified as at risk of getting HIV and provided information about SNS by the counsellors. Among them, 88% (1,450/1,644) were offered partner testing (spouse and other sexual partners), by the project staff, of which 61% (888/1,450) agreed and shared details of 991 (1.1 partner elicitation rate) partners. Of those elicited, 508 (51%) partners were tested till September 2023, with 20 (4%) confirmed positive. All 20 newly-detected people living with HIV (PLHIV) were initiated on treatment.

Conclusions/Next steps: Testing sexual partners of known HIV-negative yet at-risk individuals was effective in identifying and initiating treatment for new PLHIV with a yield of 4%. The initiative was transitioned to the Mumbai District AIDS Control Society after September 2023 and rapidly scaled up to remaining 37 HCTS sites of Mumbai.

Cascades of HIV prevention, treatment and care

EP0479

Peer navigation improves viral load testing coverage and suppression among at-risk and vulnerable populations in Morogoro, Tanzania

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Background: According to the 2022/23 Tanzania HIV Impact Survey (THIS), 98.3% of individuals in Morogoro who are aware of their HIV-positive status are on antiretroviral therapy (ART). However, only 92% have received viral load (VL) testing, highlighting ongoing challenges in reaching at-risk and vulnerable populations (VPs) for consistent HIV care and support for VL suppression (VLS) that are worsened by stigma, socioeconomic constraints, and limited access to health education and care. To address these challenges, peer navigator (PN) approach was introduced to support ART adherence, facilitate VL testing, and improve VLS among KVPs.

Description: In December 2021, the Meeting Targets and Maintaining Epidemic Control (EpiC) project introduced the PN approach in Morogoro, where PNs provided adherence counseling, traced clients with interruption in treatment, and facilitated regular VL testing. PNs leveraged their shared experiences with VPs to build trust and encourage engagement in HIV care. Initially, 22 PNs were engaged in December 2021, with the number increasing to 36 by fiscal year 2024. From December 2021 to September 2024, PNs documented each interaction, including information on patients eligible for tracked VL testing, those who received VL tests, and those who achieved VLS. Chi-square tests were used to compare suppression rates over time.

Lessons learned: The PN approach led to significant improvements in VLS rates among VPs. In the pre-intervention period (July–September 2021), 76% of clients with documented VL results achieved VLS (Table 1).

After this approach was introduced, VLS rates increased annually, reaching 78% in 2022, 96% in 2023, and 97% in 2024 (χ^2=550.53, p <0.001), underscoring the effectiveness of personalized adherence support provided by PNs in enhancing VLS.

Period	Clients eligible for VL testing	Clients tested for VL	Documented VL results	Clients with VLS	VLS rate (%)
July–September 2021	310	239	212	161	76
July–September 2022	952	710	688	539	78
July–September 2023	1697	1596	1544	1488	96
July–September 2024	2306	2057	2028	1963	97

Conclusions/Next steps: The PN approach effectively addressed barriers to HIV care among VPs by reducing stigma and supporting ART adherence and VL testing. This intervention highlights the potential of

EP0480

Uptake and disparities in tuberculosis screening using urine LAM or Sputum Xpert in advanced HIV disease in Africa: a systematic review and meta-analysis

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Background: People with advanced HIV disease face unique challenges in tuberculosis (TB) diagnosis due to low bacterial counts and extrapulmonary TB, necessitating the use of sensitive and rapid diagnostic tests such as urine lateral flow lipoarabinomannan (LF-LAM) and sputum Xpert MTB/RIF. Despite WHO recommendations, TB screening uptake remains suboptimal, particularly in resource-limited settings in Africa.
This study aimed to quantify TB testing uptake, prevalence, treatment initiation, and mortality, as well as to identify disparities by age and study setting, addressing critical gaps in the literature.
Methods: We conducted a systematic search of PubMed, Cochrane Library, and Embase for articles published between January 2011 and November 2024. Eligible studies included those reporting on TB testing uptake, prevalence, treatment initiation, or mortality among people with advanced HIV disease (CD4 ≤ 200 cells/mm³ or WHO stage III/IV) in Africa. Pooled estimates of outcome and 95% confidence intervals (CIs) were calculated using random-effects models. Stratified analyses compared TB testing uptake and TB diagnosis by age group (children vs. adults) and study setting (single-site vs. multi-site).
Results: A total of 16 studies encompassing 15,637 participants with advanced HIV disease were analyzed. The pooled TB testing uptake was 67.5% (95% CI: 45.0–84.1), with lower uptake observed among children compared to adults (24.4% vs. 67.6%; p = 0.04) and in multi-site studies compared to single-site studies (61.0% vs. 87.8%; p = 0.13). TB prevalence was 27.5% (95% CI: 19.4–37.4), with similar rates between children and adults (24.2% vs. 28.6%; p = 0.63) and between multi-site and single-site studies (29.5% vs. 21.9%; p = 0.30). TB treatment initiation was 86.6% (95% CI: 73.1–93.9), and mortality among those with TB was 16.1% (95% CI: 5.7–38.2).
Conclusions: Despite WHO recommendations, three in ten people with advanced HIV disease in Africa are not screened for TB, underscoring critical gaps in diagnosis and care. Lower TB testing uptake among children highlights a pressing need to address disparities and improve pediatric screening strategies.
These findings emphasize the importance of targeted interventions to increase TB testing coverage and ensure timely diagnosis in resource-limited.

EP0481

Trends in maternal obesity, gestational weight gain, and birth outcomes among women living with HIV in Kenya: a prospective cohort study (2008–2017)

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Background: Women Living with HIV (WLWH) may be at increased risk of suboptimal gestational weight gain (GWG) and subsequent adverse birth outcomes. Longitudinal data from sub-Saharan Africa are needed to inform public health interventions.
Methods: Pregnant WLWH in care at the Coptic Hope Center in Kenya from 2008 to 2017 were identified, and trends in pre-pregnancy body mass index (BMI), GWG, and their association with birth outcomes were analyzed. Pre-pregnancy BMI was defined using first-trimester BMI (Kg/m²) and GWG was assessed using average weekly GWG rate in the second and third trimesters per National Academy of Medicine (NAM) guidelines. Associations of GWG z-score with birthweight, low birthweight, high birthweight, and emergency C-section in singleton births were examined. Multivariable Poisson regression with multiple imputation estimated risk ratios, with bootstrap resampling for 95% confidence intervals.
Results: We analyzed 1,190 pregnancies among WLWH, 56% had linked birth outcomes. Most women had normal (45.1%), overweight (34.3%), or obese (18.0%) pre-pregnancy BMI. From 2008 to 2017, overweight BMI prevalence increased by 11.4%, from 35.2% to 39.2%, and obesity more than doubled, from 13.2% to 27.8%. Normal BMI prevalence declined by 16%, from 50.5% to 42.3%. Most WLWH had GWG rate below NAM guidelines, with 45–63% of normal-weight women and nearly all underweight women gaining inadequately in most years. Among overweight and obese women, 25–50% fell below or above recommendations.
Continuous GWG z-scores were associated with higher birthweight (+41.33g, 95% CI: 3.87, 78.79) and a 35% (aRR 1.35, 95% CI: 1.06, 1.65) increased risk of emergency C-section adjusted for socioeconomic factors, CD4 count, ART regimen class and duration. Women in the lower GWG

z-score tertile had lower birthweights (-118.02, 95% CI: -217.18, -18.87) and a reduced risk of emergency C-section (aRR 0.58 95% CI: 0.26, 0.91).

Conclusions: Trends in pre-pregnancy BMI, overweight, and obesity increased among WLWH in Kenya from 2008 to 2017, but GWG rate was below recommended levels. GWG z-score was associated with higher birthweight and emergency C-section. Interventions are needed to support healthy GWG to prevent adverse birth outcomes and long-term cardiometabolic risk for WLWH.

EP0482

Determinants of antiretroviral therapy retention among people living with HIV: a retrospective cohort follow-up study in Nepal

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Background: In Nepal, 87% of people living with HIV (PLHIV) who know their status had enrolled in antiretroviral therapy (ART) by 2023. This must be improved to meet the second 95 of the 95-95-95 target. The Meeting Targets and Maintaining Epidemic Control (EpiC) project in Nepal conducted a study to identify determinants of treatment retention among PLHIV.

Methods: We conducted a retrospective cohort study of clinical records of PLHIV who initiated ART between January 2021 and December 2022 at 55 EpiC-supported antiretroviral treatment facilities. Data were extracted from site electronic registers. The cohort was followed until the end of 2023 to analyze factors associated with treatment retention.

Data analysis was performed using binary logistic regression for independent variables: biological sex, World Health Organization (WHO) clinical stage, marital status, time from HIV diagnosis to ART initiation, multi-month dispensing (MMD) of antiretroviral medicines and linked to community care services (CCS). A p-value <0.05 was considered statistically significant.

Results: Treatment retention was 88.4% [4197/4746, 95% CI: 87.4%–89.3%) and 84.9% (1985/2339, 95% CI: 83.3%–86.3%) at 12 and 24 months respectively. Females (AOR: 1.3; p=0.003; 95% CI: 1.10–1.62), WHO stage 1 or 2 at baseline (AOR: 2.4; p=0.000; 95% CI: 1.90–3.10), linked with CCS (AOR: 7.8; p=0.000; 95% CI: 6.42–9.44) were more likely to retain in treatment at 12 months. All 140 individuals receiving MMD remained on treatment (p <0.05) at 12 months. Females (AOR: 1.5; p=0.001; 95% CI: 1.20–1.97), WHO stage 1 or 2 (AOR: 1.5; p=0.01; 95% CI: 1.10–2.11), married (AOR: 1.4; p=0.006; 95% CI: 1.10–1.84), linked with CCS (AOR: 6.7; p=0.000; 95% CI: 5.22–8.54), and rapid ART initiation (AOR: 1.4; p=0.02; 95% CI: 1.04–1.83) were more likely to retain in treatment at 24 months. All 336 individuals receiving MMD remained on treatment (p <0.05) at 24 months.

Conclusions: Retention on treatment at 12 and 24 months was associated with sex, marital status, WHO stage, rapid ART initiation, MMD, and linkage to CCS. These determinants should be considered when conducting adherence counseling and person tracking to minimize treatment interruption to improve ART initiation.

EP0483

The impact of hunger on HIV management in Zambia: insights from the 2024 crisis and implications for Africa's HIV response

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Background: In 2024, Zambia faced its most severe hunger crisis in decades, affecting over 6 million people, including 20% of individuals living with HIV (PLHIV). Food insecurity undermined HIV care by compromising antiretroviral therapy (ART) adherence, reducing treatment efficacy, and increasing opportunistic infections. The SMART survey indicated worsening malnutrition, with Southern Province recording a wasting rate of 6.2%, more than double the 2019/2020 drought rate.

Pregnant and breastfeeding women were disproportionately affected, with nearly 112,000 projected to experience wasting, including 13,000 in severe forms. These conditions presented significant barriers to achieving the UNAIDS 95-95-95 targets.

Description: The hunger crisis disrupted ART delivery, with clinic visits declining by 40% in food-insecure areas due to hunger-induced migration. Among PLHIV, 65% missed ART doses due to food insecurity, leading to a 47% increase in cases of detectable viral load. Hospitalizations for opportunistic infections, such as tuberculosis and pneumonia, increased by 30%, with malnutrition complicating 75% of cases. Emergency interventions included mobile clinics and food aid, yet structural challenges, such as stigma and lack of sustainable solutions, persisted.

Lessons learned: Zambia's experience highlights the critical need to integrate nutritional support into HIV programs. Multisectoral collaboration is vital to address the intersection of food insecurity and HIV. Community-based solutions, such as mobile health units, effectively reduce access barriers during crises.

Evidence from Kenya and Malawi confirms that integrating nutritional support with ART improves adherence and health outcomes. Addressing stigma related to both food insecurity and HIV is essential for promoting timely care.

Conclusions/Next steps: A holistic approach that combines food security interventions with HIV care is essential for improving resilience among PLHIV during crises.

Proactive measures, such as including food security strategies in national HIV programs, are crucial for achieving global HIV targets.

Zambia's lessons provide a model for Africa's broader response to the combined challenges of food insecurity and HIV management.

EP0484

Factors associated with viral unsuppression among children and adolescent clients on antiretroviral therapy in Oyo State Nigeria: a mixed method study

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Background: Viral suppression is one of the goals of antiretroviral therapy (ART) for the management of HIV acquisition. Viral suppression is a viral load (VL) of less than 1000 copies per ml. Despite the availability of effective antiretroviral drugs (ARV), virological unsuppression remains a major issue in Nigeria. This is especially true with children and adolescents living with HIV (CALHIV).
This study was to determine the viral suppression rate among CALHIV receiving ART in three ART sites in Oyo state and factors associated with virological unsuppression.
Methods: We conducted a cross-sectional review of program data for all CALHIV on ART and with valid VL test results in three comprehensive ART sites. Client-level data were extracted from the electronic medical record (EMR) and analyzed using SPSS. Factors associated with viral unsuppression were examined using a chi-square test and logistic regression.
Additionally, healthcare workers and CALHIV were also purposively selected for in-depth interviews to elicit information on barriers and facilitators of viral suppression. Thematic content analysis was used to analyze qualitative data.
Results: Eight hundred and forty-nine CALHIV were enrolled in the study (n = 849). Of this 849, 82% (697) were virally suppressed. The mean age of participants was 12.17 years (SD-4.74) and more than half were male (52%, n = 438). Clients who were diagnosed with TB (aOR 9.66; 95%CI: 1.79- 27.20), unaware of HIV status (aOR 3.98; 95%CI: 2.46- 6.47), and having an HIV-negative caregiver (aOR 2.69; 95%CI: 1.58- 4.59) were at higher risk of viral unsuppression.
Healthcare workers identified stigma, drug refusal/drug fatigue, and non-disclosure of HIV status as barriers to viral suppression. Other barriers were delays in the initiation of enhanced adherence counseling (EAC) and suboptimal adherence counseling. Facilitators were age-appropriate disclosure and good family support.
Conclusions: Viral suppression rates are low compared to the UNAIDS 95% target. To improve viral load suppression and treatment outcomes among CALHIV in Nigeria, there is a need to strengthen adherence support and age-appropriate HIV disclosure to CALHIV and their caregivers. HIV program managers should implement continuous quality improvement (CQI) targeting identified barriers in healthcare facilities.

EP0485

Ending HIV transmission via community-led treatment monitoring and follow-up of exposed children with EID: findings from the AHANA project implemented in 13 states of India - Treatment scaling

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Background: While India has made a significant progress in arresting and reversing the HIV epidemic, testing coverage of pregnant women remained very low in many states during 2015. Evidence suggests access to HIV testing remained very low at 34% in the 13 Plan India project states with an estimated annual pregnancy of 14 million per year. Complementing Govt. of India's NACP, Plan India has been implementing AHANA project supported by The Global Fund towards attaining EMTCT.
Description: a) Investing in the capacities of 40 thousand community health worker at Govt. health facilities,
b) advocacy for procurement of Kits and ensuring a smooth supply of kits- consumables and
c) generating awareness among pregnant women to receive HIV testing during pregnancy Rigorous advocacy with Govt. at the national level as well as at the local level to ensure procurement and uninterrupted supplies of kits and consumables.
HIV testing expanded from district level to the all PHCs and to VHNDs taking the testing to the doorstep of Pregnant women.
Lessons learned: HIV testing among pregnant women increased from 34% during 2016-17 to 92% during 2023-24. Proportion of peripheral HIV testing has increased from 25% to 80% suggesting increased access of HIV testing among the pregnant women in village and rural areas. This has resulted in 25% increased identification between the periods of 2016-17 to 2023-24. More than Thirty thousand pregnant women were identified as HIV positive, linked to ART services and followed up for care and support during the period 2016-24. Early linkages were improved with ART treatment ensured during ANC phase improved from 79% to 88%, Institutional delivery has improved from 90% to 93% during the project period. More than 16 thousand babies confirmed as negative after receiving confirmatory tests at 18 months.
Conclusions/Next steps: With capacity enhancement in the peripheral public health units, HIV testing increased manifold through community driven HIV screening process. PMTCT outcome improved through a community led care cascade monitoring for HIV positive pregnant women. Plan India's AHANA project shows the pathways to expanding PMTCT services through a community led service delivery integrated with general health systems.

EP0486

Understanding mobility and interruption in HIV treatment differences by gender in Malawi: a case-control study

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Background: Human mobility increases risk of interruption in treatment (IIT). Mobility patterns are known to differ by gender. We explored the role of mobility in IIT among women and men in Malawi to better understand what gender-specific mobility interventions are required.
Methods: We used stratified sampling to survey ART clients who were (1) re-initiating antiretroviral therapy (ART) after IIT (≥28 days late for scheduled ART pick-up) or (2) "stable" on ART (no IIT in last 12 months). Other eligibility criteria included ≥15 years and living in the catchment area of nine participating facilities. Sociodemographic characteristics, ART history, and mobility history were collected. We used multivariable conditional logistic regressions, t-test, and rank-sum tests to assess differences between recent IIT and stable clients by gender.
Results: From September 2023-April 2024, we enrolled 992 participants: 585 women (198 stable, 387 recent IIT) and 407 men (146 stable, 261 recent IIT). Mobility strongly predicted recent IIT for both sexes: clients with recent IIT were more likely to have taken a trip ≥30 nights in the last 12 months (women aOR 10.25 [95%CI 5.80-18.10], men 8.51 [4.20-17.24]) or with <2 days to prepare (women aOR 2.01 [1.30-3.11], men 2.43 [1.43-4.12]). Men were more likely than women to travel for income generation (13% women vs. 43% men, p<0.001), although women (but not men) who traveled for income generation had lower risk of IIT (aOR 0.43 [0.21-0.87]).

Table 1. Sociodemographics and mobility of women and men stable on ART and with recent IIT at nine facilities in Malawi (n=992)

	Total (n=992)	Women (n=589)				Men (n=414)				p-value (difference in aORs)
		Stable in care (n=198)	Recent IIT (n=387)	aOR (95%CI)		Stable in care (n=146)	Recent IIT (n=261)	aOR (95%CI)		
SOCIODEMOGRAPHICS										
Age ≥40, n (%)	506 (51%)	92 (46%)	149 (39%)	0.60 (0.39-0.93)		99 (68%)	166 (64%)	0.58 (0.33-1.02)		0.98
Married, n (%)	593 (60%)	119 (60%)	175 (45%)	0.53 (0.35-0.81)		114 (78%)	185 (71%)	0.79 (0.43-1.45)		0.32
Living with child under 2 years of age, n (%)	210 (21%)	48 (24%)	81 (21%)	0.43 (0.37-1.06)		19 (13%)	62 (24%)	1.41 (0.71-2.82)		0.06
Top wealth quintile, n (%)	195 (20%)	42 (21%)	72 (19%)	0.54 (0.29-0.99)		42 (29%)	39 (15%)	0.34 (0.18-0.66)		0.16
Attended any secondary school, n (%)	287 (29%)	61 (31%)	86 (22%)	0.56 (0.34-0.94)		55 (38%)	85 (33%)	1.02 (0.58-1.77)		0.22
MOBILITY IN LAST 12 MONTHS										
Took at least one trip ≥30 consecutive nights, n (%)	427 (43%)	21 (11%)	222 (58%)	10.25 (5.80-18.10)		22 (15%)	162 (62%)	8.51 (4.20-17.24)		0.49
Traveled for income generation, n (%)	254 (26%)	24 (12%)	54 (14%)	0.43 (0.21-0.87)		41 (28%)	135 (52%)	0.69 (0.36-1.33)		0.23
Took at least one trip with <2 days to prepare, n (%)	493 (50%)	72 (36%)	233 (60%)	2.01 (1.30-3.11)		41 (28%)	147 (56%)	2.43 (1.43-4.12)		0.34
Traveled outside Malawi, n (%)	156 (16%)	12 (6%)	60 (16%)	1.89 (0.78-4.60)		8 (5%)	76 (29%)	3.25 (1.30-8.10)		0.2

The most common purpose for women's travel was caregiving (36% of women with IIT). Mobility was the most common explanation for missed appointments for women (51%) and men (63%).
Conclusions: Mobility was the leading cause and a strong predictor of recent IIT for both genders, though purpose for travel differed by gender. Mobility-focused interventions are needed to reduce IIT but may require tailoring to address gendered forms of mobility.

EP0487

The effect of same-day HIV treatment initiation (SDI) on one-year outcomes in low- and middle-income countries: systematic review and meta-analysis of randomised trials

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Background: Same-day initiation (SDI) of antiretroviral therapy (ART) is recommended for people presenting with HIV who do not have serious comorbidities (e.g. neurotuberculosis). We conducted a systematic review and aggregate data meta-analysis to evaluate the effect on retention in care and viral suppression of interventions that introduced or facilitated SDI in low- and middle-income countries (LMICs).
Methods: We searched MEDLINE, Embase and Cochrane Library (December 31st, 2024) for randomised controlled trials of SDI among eligible adults in LMICs.
We stratified the analyses into:
i. trials comparing introduction of SDI vs standard care not allowing SDI, and;
ii. trials comparing further facilitation of SDI vs standard care allowing SDI in eligible people.
Viral suppression and retention in care one year post enrolment were analysed using a random-effects meta-analysis, with results pooled by stratum. (PROSPERO ID: CRD42023482522).
Results: We identified 10 trials, 6 comparing introduction of SDI vs no SDI and 4 facilitating SDI vs standard care. In trials comparing introduction of SDI vs no SDI, pooled relative-risk estimates for one-year viral suppression and retention were 1.19 (95%CI: 1.09-1.29) and 1.17 (1.06-1.30), respectively. In trials comparing facilitation of SDI vs standard care, estimated relative risks were 1.01 (0.90-1.15) and 0.96 (0.91-1.02) for viral suppression and retention, respectively (figures 1 and 2).

Figure 1: Viral suppression 1 year after enrolment (*numbers adjusted for design effect)

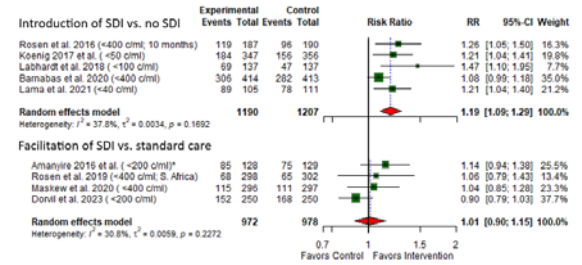
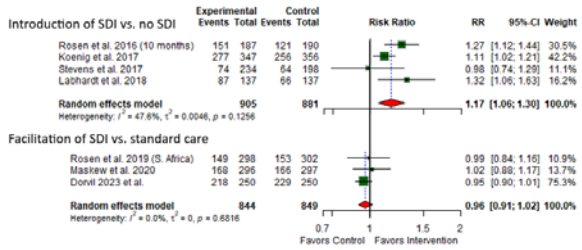


Figure 2: Retention in care 1 year after enrolment



Conclusions: In LMICs where standard care did not allow for SDI, introduction of same-day ART improved one-year outcomes. Where SDI was already part of standard care, trials that tested approaches to further facilitate SDI had no effect on clinical outcomes.

EP0488

Exploring the dynamics of first and multiple treatment interruptions in antiretroviral therapy in Kenya

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Background: Treatment interruptions in HIV care leads to viral rebound, increased transmission, drug resistance, and heightened morbidity, undermining epidemic control. Differentiated service delivery (DSD) aims to improve retention, however its impact on interruptions remains underexplored. Cox models often overlook multiple interruptions and time-varying factors, limiting their ability to capture interruption dynamics over time.
Methods: This retrospective study includes HIV-positive clients who started antiretroviral therapy between 2017 and 2023, in Kenya. Treatment interruption was defined as no clinical contact or antiretroviral drug (ARV) pick-up for more than 28 days after the last expected contact. We used Cox proportional hazards models to identify predictors in two analyses: time-invariant for first interruptions and time-varying for multiple interruptions.
Results: 621,115 clients were included in the analysis, 67% female and median age of 33 years. Median follow-up time was 5.87 months (IQR: 0.9–26.9) to first interruption and 42 months (IQR: 22–61 months) for multiple interruptions. Incidence rates were 50.7 (95% CI: 50.5–50.8) and 48.3 (95% CI: 48.2–48.4) per 100 person-years for first and multiple interruptions, respectively. Median time to first interruption was 7.5 months after ARV initiation, with 54% occurring within the first year. Median time to multiple interruptions was 16.4 months. Median time to return to care after an interruption was 87 days (IQR, 51–175).
Risk factors for both first and multiple treatment interruptions included older age at ARV initiation, male gender, marital status, lower education, pre-existing non-communicable diseases, non-adherence, clinical instability, advanced WHO stages, and high viral load.
Additional risks for multiple interruptions included being on second or third-line regimens and longer duration of interruptions. Less intensive DSD models were linked to an increased risk of first and multiple treatment interruptions, while multi-month drug dispensing (MMD), a DSD component, was associated with reduced risk. This suggests MMD may mediate the relationship between DSD models and treatment interruptions.
Conclusions: In conclusion, clients on less intensive DSD models had higher risk of both first and multiple treatment interruptions. Highlighting the need for strategic DSD transitions that effectively combine appropriate models with MMD to support treatment continuity, adherence, and long-term retention.

EP0489

Bridging gaps to HIV epidemic control: addressing treatment interruptions and strategies for left-behind sub-populations – A retrospective analysis in PEPFAR-USAID supported facilities across 15 South African districts

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Background: The UNAIDS global strategy aims to eliminate HIV/AIDS as a public health threat by 2030. Despite South Africa's progress towards achieving the global 95-95-95 targets at 96-81-93, antiretroviral therapy (ART) interruption poses a substantial challenge to reaching the 2030 goal.
Methods: We examined ART interruption rates between 2021 and 2024 using routine data reported in TIER/DATIM from 15 USAID supported districts in South Africa. The primary outcome was the number of interruptions, and the exposure variable was the number of individuals on treatment - the population of interest.
A quasi-Poisson regression model was utilized to account for the over-dispersed data, estimating incident rate ratios (IRRs) and 95% confidence intervals (CIs) to evaluate factors associated with treatment interruptions. We controlled for sex, age group, and fiscal year as fixed effects

while incorporating random intercepts to account for variation in baseline treatment interruption rates across sub-districts. Data analysis was conducted using R version 4.4.1.

Results: By the end of the 2024 fiscal year, a total of 2,210,534 individuals were receiving treatment, with at least 103,743 experiencing an interruption, representing approximately 4.69% of the total. Adult (20+ years) males (IRR = 1.35; 95%CI: 1.33-1.38) compared to adult females, and children <15 years (IRR = 2.99; 95%CI: 2.83-3.16) were more likely to experience treatment interruptions. Interruption rates decreased with older age, with young adults aged 15-19 years recording an IRR of 2.64 (95%CI: 2.90-3.10), 20-24 years recording 2.98 (95%CI: 2.90-3.01), and 25-49 years recording an IRR of 1.51 (95%CI: 1.49-1.54) compared to 50+ years.

Over time, interruption rates dropped significantly; 25% lower in 2022 (IRR = 0.75; 95%CI: 0.73-0.76) and 27.9% lower in 2023 (IRR = 0.72; 95%CI: 0.70-0.73) compared to 2021. Although there was a slight increase in 2024 compared to 2023, interruption rates remained 13.9% lower in 2024 than in 2021 (IRR = 0.86; 95%CI: 0.84-0.87).

Conclusions: Findings highlight an urgent need for targeted treatment continuity interventions, particularly for younger populations and males, as we accelerate efforts toward achieving the UNAIDS 2030 goal. Such strategies are essential to sustain and further reduce interruption rates, ensuring progress in HIV epidemic control.

EP0490

Prevalence of low-level viremia and correlates of viral load suppression in Ugandan pregnant women living with HIV (April 2022-March 2024)

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Background: Viral load (VL) non-suppression is a key predictor of vertical HIV transmission. Suppression to undetectable levels optimizes individual treatment outcomes. We determined the prevalence of low-level viremia (LLV), high-level viremia (HLV), VL suppression (VLS) and correlates of VLS among pregnant women living with HIV (PWLHIV) to inform Uganda programming.

Methods: We conducted a retrospective cross-sectional analysis of all VL results for PWLHIV on antiretroviral therapy (ART) in the Uganda Central Public Health Laboratory Information Management System from April 2022 through March 2024. Results for clients with suspected/confirmed treatment failure (any repeat VL after initial VL ≥ 1000 copies) were excluded. HLV was defined as VL ≥1000 copies/mL, LLV as 201–999 copies/mL and VLS as VL ≤200 copies/mL. Independent variables were maternal age, duration on ART, indication for VL test and self-reported adherence.

Adherence to ART was defined as good (≥95%) and fair/poor (<95%). Indications for testing were routine monitoring or first antenatal care (ANC) visit. We used multivariate logistic regression to determine correlates of VLS.

Results: Prevalence of HLV was 7% (2,386/33,704); LLV was 37% (12,379/33,704) and VLS was 56% (18,939/33,704). Odds of VLS were higher for PWLHV 25–29 years (adjusted odds ratio [aOR]=1.36; 95% confidence interval [CI]: 1.25–1.47), 30–34 years (aOR=1.50, 95%CI: 1.37–1.64), and ≥35 years (aOR=1.54, 95%CI: 1.39–1.70), compared to PWLHIV 15–24 years. Odds of VLS were higher for PWLHIV receiving VL testing for routine monitoring (aOR=1.13, 95% CI: 1.01–1.27) compared to those receiving VL testing at first ANC visit and those with good adherence compared to those with fair/poor adherence (aOR=1.78, 95%CI:1.38–2.28). Odds of VLS were lower for PWLHIV on ART for 1–2 years (aOR=0.62, 95% CI:0.56–0.67) and >2 years (aOR=0.70, 95%CI:0.65–0.75) compared to PWLHIV on ART for <1 year.

Conclusions: VLS among PWLHIV was low, revealing a substantial gap. Routine monitoring of adherence and viremia (including LLV) particularly for women on ART for ≥ one-year, supportive preconception counselling, and innovative interventions for those aged <25 years might help improve VLS among PWLHIV.

EP0491

Client-Centered HIV Care Outcomes_Fahari Ya Jamii Project_2022-2024

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Background: Improving client-centred HIV care outcomes is essential for ensuring long-term retention and equity, particularly in resource-limited settings. The *Fahari ya Jamii* Project has been operational in Nairobi and Kajiado counties since 2019. It has addressed these gaps through tailored interventions, including peer mentorship, psychosocial support, and community-based testing.

This analysis evaluates population-specific outcomes, client-reported experiences, and the impact of community-led monitoring (CLM) on improving HIV care delivery.

Methods: We conducted a retrospective programmatic data analysis from October 2022 to September 2024, incorporating quantitative and qualitative metrics. The program reached *870,009 individuals* across 165 healthcare facilities (104 in Nairobi and 61 in Kajiado counties). Quantitative metrics included client-reported health status, ART adherence, participation in psychosocial support programs, and re-engagement outcomes. Data were

stratified by hub, fiscal year, and population group (general, paediatric, and adolescent). Where available, community-led monitoring (CLM) data supplemented programmatic findings to identify client barriers and service delivery gaps.

Results: The analysis demonstrated that client-centered strategies yielded significant outcomes. Among the *870,009 individuals served*, re-engagement efforts successfully traced and re-enrolled 78% of clients lost to follow-up ($\chi^2 = 10.87$, $p < 0.05$); however, disparities were evident, with some hubs reporting re-engagement rates as low as 50%. Paediatric-specific interventions in Kajiado East & Central hubs achieved a 97% linkage-to-care rate, significantly outperforming other hubs ($\chi^2 = 14.32$, $p < 0.01$). Differentiated care models and psychosocial support programs contributed to improved quality-of-life outcomes, with 85% of clients reporting better health, 90% adherence to ART, and 70% participation in psychosocial programs ($p < 0.05$).

Community-led monitoring data identified persistent barriers to care, including stigma, transportation costs, and limited access to mental health services, which informed adjustments in service delivery approaches.

Conclusions: Fahari ya Jamii's population-specific interventions, reaching over *870,000 individuals*, have significantly improved re-engagement, retention, and client-reported outcomes in HIV care.

Despite these successes, disparities in re-engagement rates and barriers identified through CLM underscore the need for expanded mental health services and community-driven approaches.

These findings highlight the importance of integrating client-centered strategies into HIV programs to promote equitable, sustainable care outcomes in resource-limited settings.

EP0493

Impact of the Network of People Living with HIV/AIDS in Nigeria (NEPWHAN) on HIV disclosure interventions to enhance viral suppression among Children Living with HIV (CLHIV) in Anambra State, Nigeria

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Background: HIV disclosure is essential for improving ART adherence and viral suppression in children but is often hindered by stigma, fear, cultural norms, and caregiver limitations, particularly in discordant households. NEPWHAN's interventions address these barriers to enhance health outcomes for those affected by HIV.

This study evaluates the effectiveness of these efforts in Anambra State to improve disclosure practices and optimize care for CLHIV.

Methods: This study retrospectively analyzed program data collected between January 2021 and April 2024, focusing on HIV disclosure sessions for children aged 10 to 24. The sessions aimed to address barriers faced by mothers in disclosing their HIV status to children and spouses. Data on disclosure status and viral load outcomes were retrieved from RADET files, compiled, and analyzed using Microsoft Excel. Statistical associations were evaluated using chi-square tests.

Results: From 2021 to 2024, the treatment cohort (Tx_Curr) for individuals aged 10 to 24 was 2,696 in 2021, 4,797 in 2022, 4,656 in 2023, and 3,986 by April 2024. The disclosure rate improved significantly, attributed to the NEPHWAN intervention, increasing from 890 (33% of Tx_Curr) in 2021 to 1,275 (27% of Tx_Curr) in 2022, 2,783 (60% Tx_Curr) in 2023, and 3,146 (79% of Tx_Curr) by April 2024. Suppressed viral load results increased from 1,605 in 2021 (85%) to 2,899 in 2022 (88%), 3,192 in 2023 (90%), and 2,726 by April 2024 (92%). There was a continuous improvement in viral suppression rate over the period, (85% in 2021 vs. 92% in 2024, p-value <0.05).

Conclusions: The findings show that targeted interventions, such as structured disclosure sessions, successfully addressed barriers to HIV status disclosure, leading to improved treatment adherence and better health outcomes. Supporting caregivers and overcoming disclosure challenges were key to enhancing viral load testing and treatment success.

EP0494

HIV cascade with the 95-95-95 achievements

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Background: Achieving Fahari ya Jamii's 95-95-95 targets remains a significant challenge in resource-limited settings. The FYJ Project, operational since 2019 in Nairobi and Kajiado counties, has implemented targeted interventions to improve HIV testing, linkage to care, ART initiation, retention, and viral suppression rates.

This analysis evaluates the program's progress toward these goals, identifying successes and persistent gaps.

Methods: We conducted retrospective programmatic data analysis from October 2022 to September 2024. Data were drawn from 165 healthcare facilities (104 in Nairobi and 61 in Kajiado counties) and included 870,009 individuals tested for HIV during the study period. Quantitative metrics included HIV testing services (HTS) coverage, positivity rates, ART initiation, retention, and viral suppression. Statistical analyses, including chi-square tests and multivariate logistic regression, assessed trends and predictors of key outcomes. Data were stratified by hub, population group, and fiscal year.

Results: The program demonstrated substantial progress across the HIV cascade. HIV testing targets were met or exceeded during the study period, with 72% of targets achieved in FY22 (210,505 individuals tested), 86% in FY23 (281,927 tested), and 117% in FY24 (377,577 tested).

Positivity rates improved steadily from 90% in FY22 to 111% in FY24. ART linkage also increased significantly, improving from 70% in FY22 to 95% in FY24 ($\chi^2 = 12.56$, $p < 0.01$). Retention outcomes consistently improved, with first-year ART retention exceeding 85% across all hubs.

Viral suppression rates rose significantly, increasing from 60% in FY22 to 85% in FY24 ($\chi^2 = 10.45$, $p < 0.05$). These results highlight the success of differentiated care approaches and follow-up mechanisms in addressing gaps in the care cascade.

Conclusions: Fahari ya Jamii's targeted interventions have significantly advanced the 95-95-95 agenda, achieving substantial improvements in HIV testing, ART initiation, retention, and viral suppression. However, disparities in outcomes across hubs and population groups indicate the need for continued investment in tailored and scalable strategies to address barriers in resource-limited settings.

EP0495

Readmission: a risk for mortality among people living with HIV admitted to hospital in the Democratic Republic of Congo and Guinea

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Background: Despite advances in access to antiretroviral therapy, AIDS-related deaths remain high, particularly among hospitalised people living with HIV in low-resource settings. Mortality risks persist post-discharge and a systematic review in 2022 pooling data from 3717 people living with HIV in low- or middle-income settings found a readmission rate of 19%.

We present post-discharge outcomes in a cohort of 7632 hospitalized adults (aged ≥18 years) living with HIV in Guinea and the Democratic Republic of Congo (DRC).

Methods: Individual-level data were abstracted from electronic hospital records for admissions to inpatient HIV treatment units in Conakry, Guinea (January 2015 to May 2024) and Kinshasa, DRC (January 2021 to January 2024). Admission status, demographics, clinical characteristics, and inpatient mortality were summarised. Admission episodes were tagged by unique identifier codes to generate a list of readmissions.

Results: There were 11274 admissions among 7632 individuals (DRC: 5581 admissions, 3359 individuals; Guinea: 5693 admissions, 4273 individuals). Amongst those with available data, 71% (7578/10677) of the admissions were among people living with advanced HIV disease (AHD; defined as a CD4 count of <200 cells/uL) and 78% (7036/9408) were ART-experienced at admission.

The median age for admissions was 40 years (IQR: 32 - 50) and median CD4 count was 104 cells/uL (IQR: 40-232). 62% (6997/11274) of the admissions were among women.

The case-fatality ratio during the first admission was 29% (2169/7577). Amongst those who survived to discharge, 38% (2035/5408) were readmitted. 66% (1343/2035) of readmissions were within 180 days, with a median time to readmission of 66 days (IQR: 26-361).

Among those readmitted at least once, the cumulative mortality across subsequent readmissions was 38% (767/2035). The risk of readmission after the second admission was 48% (743/1540) and 53% (315/594) after the third admission.

Conclusions: We show a higher readmission risk amongst hospitalised people living with HIV in low-resource settings than previously reported. Without close outpatient follow-up between admissions, this is probably an un-

der-estimate of post-discharge adverse events (including readmissions and mortality). Both mortality and readmission risk were particularly high among people readmitted at least once, suggesting that this group could be a focus for tailored interventions.

EP0496

HIV care cascade among people experiencing homelessness in Porto Alegre, Brazil

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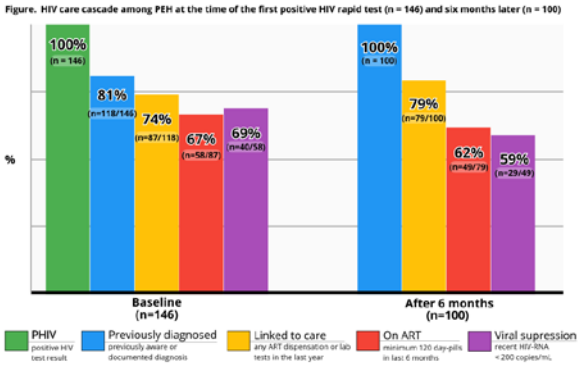
Background: Despite Brazil's long-standing commitment to addressing HIV, marginalized populations still face significant healthcare barriers. Street Clinic Teams (SCT) provide direct on-site care to people experiencing homelessness (PEH).
This study aims to assess HIV care cascade outcomes among PEH served by SCT in Southern Brazil.
Methods: We enrolled PEH approached by SCT in central and central-south districts of Porto Alegre (April/2023-November/2024) with at least one HIV test result. Characteristics were compared by HIV status (Wilcoxon and Fisher's/Chi-squared test for continuous and categorical variables, respectively).
We calculated the outcomes related to the HIV care cascade at baseline and six months later.
Results: 1,307 PEH were approached, of whom 11.1%(n=146) were PHIV. The median age was 39 years(IQR:31-48), and the majority of participants were white(53%,n=660/1,252). PHIV were more likely to identify as transgender women(12% vs 0,9%,p<0.01), had higher rates of syphilis(25.7% vs 16.9%,p=0.01), active hepatitis B(2.1% vs 0.3%,p=0.04) and hepatites C seroprevalence(12.7% vs 5.8%,p<0.01)(Table).

		Not living with HIV n = 1,161[1]	People with HIV n = 146[1]	Overall n = 1307	p-value[2]
Age (years)	Median (IQR)	39 (31, 48)	39 (32, 48)	39 (31, 48)	0.50
Race / color	Non white (Black, Pardo and Mixed, Indigenous, Asian)	519/1106 (47%)	73/146 (50%)	592/1252 (47%)	0.23
	White	587/1106 (53%)	73/146 (50%)	660/1252 (53%)	
Gender identity	Cisgender men	869/1108 (78%)	85/146 (58%)	959/1254 (76%)	<0.01
	Transgender men	6/1108 (0.5%)	0/146 (0%)	6/1254 (0.5%)	
	Cisgender women	223/1108 (20%)	43/146 (29%)	266/1254 (21%)	
	Transgender women	10/1108 (0.9%)	18/146 (12%)	28/1254 (2.2%)	

[1]Median (Q1, Q3); n (%); [2]Wilcoxon rank sum test; Fisher's exact test; Pearson's Chi-squared test

Table. Sociodemographic characteristics of PEH in Porto Alegre, Brazil according to HIV status (n = 1307).

Among PHIV, 80.8%(n=118/146) were aware of their diagnosis, and 73.7% (n=87/117) were linked to care at baseline. Of those linked, 66.7% (n=58/87) had regular ART dispensation, and 68.9% (n=40/58) achieved virological suppression (HIV-RNA<200 copies/mL). Six months later, 79% were linked to care, 62% had regular ART, and 59.2% reached suppression (Figure).



Conclusions: PEH are disproportionately burdened by the HIV epidemic in Porto Alegre and face significant barriers to accessing HIV care. Addressing gender and homelessness requires intersectoral action, with housing rights central to the HIV response. SCT could deliver injectable antiretrovirals to key populations but remains unavailable in Brazil, requiring further studies.

EP0498

Sustained maternal HIV viral load suppression and cascade of HIV testing among HIV exposed infants in Rwanda

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Background: To prevent mother to child transmission of HIV (MTCT), sustained maternal viral-load suppression and early HIV testing among HIV exposed infants (HEI) is critical. We explored maternal viral-load results and infant HIV testing uptake at 6– weeks, 9– and 18– months in Rwanda.
Methods: Between 2015 and 2022, we measured viral-load suppression (VLS<200 copies/mL) among pregnant-women living with HIV (WLHIV) from 38–healthcare facilities. Viral-loads (VL) were measured at 6–, 12– and 24– months, respectively. For maternal VL, the unit of analysis was visit–pair, which were created to define those with VL<200 copies/ml at two consecutive visits as having sustained VLS, persistent viremia (VL≥200 copies/ml at two consecutive visits), viral rebound (VL<200 copies/ml at prior visit only) and newly suppressed (VL<200 copies/ml at subsequent visit only). HEI is considered to have persistent HIV

testing if she/he had all three HIV tests. Poisson regression models with generalized estimating equations were used to estimate adjusted incidence rate ratio (aIRR) and 95% confidence intervals (CI) for factors associated with sustained VLS and persistent HIV testing.

Results: A total of 1,145 mother-infant pairs were analyzed. Infant HIV testing uptake at 6- weeks, 9- and 18- months were 1,145(100.0%), 1,089(95.1 %) 1,006(87.9%) respectively. Nine hundred ninety-nine HEI (87.3%) tested for HIV persistently. At 18- months, the incidence of HIV among HEI was 8(0.7%). Of 1,145 mothers, 1,076(94.0%) had ≥2 VL results making a total of 2,010 visit-pairs (142-single; 934-double visit-pairs). The incidence of sustained VLS, persistent viremia, viral rebound and new suppression were 91.0%, 1,3%, 3.6% and 4.0% respectively. Maternal disclosure of HIV status [aIRR = 1.08 95%CI (1.02–1.14)] was associated with increased likelihood of sustained VLS. Having peer support [aIRR = 1.05 95%CI (1.01–1.10)] was associated with persistent HIV testing among HEI.

Conclusions: Sustained VLS is high among pregnant WLHIV in Rwanda. Low incidence of HIV among HEI could be attributed to high levels of sustained VLS among these women. Targeted interventions focusing on HIV disclosure and peer support placement is critical to improve sustained VLS and infant HIV testing uptake in the efforts of reducing MTCT.

EP0499

Sustained HIV viral load suppression among transgender people assigned male at birth in Washington DC, USA

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Background: Sustained viral load suppression is an important indicator of successful treatment among people living with HIV. We evaluated trends of different viral load outcomes among transgender people assigned male at birth (TG-AMAB) at a community-based organization in Washington DC, USA.

Methods: Between 2021 and 2023, participants were enrolled in PATCH, a longitudinal natural history study of transgender individuals in Washington, DC. Surveys and HIV viral loads (VL) were assessed at approximately 3 month intervals. In this evaluation, the unit of analysis was visit-pair, with subjects across four visit-pair categories: (1) *sustained VLS* (VL<200 copies/ml at two consecutive visits); (2) *persistent viremia* (VL≥200 copies/ml at two consecutive visits), *viral rebound* (VL<200 copies/ml at prior visit only) and *newly suppressed* (VL<200 copies/ml at subsequent visit only). Poisson regression models with generalized estimating equations were used to estimate incidence rate ratio (IRR) and 95% confidence intervals (CI) for factors associated with sustained VLS.

Results: Of 54 TG-AMAB living with HIV, 48 (88.9%) had ≥2 VL results and were included in the final analysis. The median age was 37 (interquartile range:34-42.5) years. Forty-eight people contributed 159 visit pairs (2-single pair, 11-two pairs, 11-three pairs 19-four pairs,4-five pairs and 1-six pairs). Of the 159 pairs, 62.9% had sustained VLS, 11.3% had persistent viremia, 11.3% had viral rebound and 14.5% had new suppression. Participants who were African-American (IRR=0.69; 95%CI:0.50–0.94), identified as female (IRR=0.70; 95%CI:0.51–0.97) and reported missed doses >5 days/month (IRR=0.52; 95%CI:0.31–0.88) had a reduced likelihood of attaining sustained VLS. Individuals who were employed (IRR=1.88; 95%CI:1.37–2.56) and those with treated mental health diagnosis (IRR=1.67; 95%CI:1.08–2.60) had an increased likelihood of sustained VLS.

Conclusions: In a cohort of urban TG-AMAB, there was a low incidence of sustained VLS, which was associated with race, gender identity, employment status, mental health treatment, and antiretroviral therapy adherence. Interventions targeting these comorbidities and social determinants of health may be crucial for achieving sustained viral suppression and are critical to sustaining a global HIV elimination strategy.

EP0500

Uptake of PrEP among key populations participating in social network strategy testing in health facilities in Hai Phong City, Vietnam, October 2021 – June 2024

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Background: Hai Phong City, Vietnam, has implemented multiple approaches to improve the uptake of HIV pre-exposure prophylaxis (PrEP) among key populations (KP), including men who have sex with men (MSM), people who inject drugs (PWID), and people engaged in commercial sex. Among these approaches, social network strategy (SNS) testing trains people living with HIV (PLHIV) or individuals at risk of HIV to use coupons to recruit and refer their social and risk network associates for HIV testing and linkage to PrEP or HIV treatment based on their HIV status. We analyzed PrEP uptake among clients recruited through SNS in Hai Phong City.

Methods: SNS client at age of 16 years old and above registers between October 2021 – June 2024 from 10 HIV and PrEP clinics in Hai Phong were analyzed. Among SNS-recruited clients who tested negative for HIV, we calculated the proportion of those who were successfully linked to and initiated PrEP. We assessed factors associated with PrEP uptake using bivariate and multivariate regression analyses.

Results: A total of 1645 individuals (median age: 37 years) tested HIV-negative through SNS; 72.7% (1,196) were male and 27.3% (449) were female. Only 24% (396) of clients re-

ceived PrEP through SNS-facilitated linkage. This varied by risk group: 41.4% among MSM; 19.2% among PWID; 5.6% among women engaged in commercial sex; and 30.8% among sex partners of PLHIV.
Among KP, PWID and women engaged in commercial sex were less likely to be successfully linked to PrEP compared to MSM [(aOR: 0.24; 95% CI: 0.16-0.34) and (aOR: 0.2; 95%CI: 0.10-0.40)]. Clients aged 25-29 years were less likely to link to PrEP compared to clients aged less than 25 years old (aOR: 0.53; 95 CI: 0.38-0.74).
Conclusions: SNS can reach high-risk KP to provide testing and PrEP linkage; PrEP uptake was low but varied by population; further research may be of use to identify barriers to PrEP initiation and develop effective PrEP education & demand creation strategies.

EP0501

A retrospective analysis of ART interruption patterns among adults in Malawi's HIV program

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Background: Disengagement from HIV-treatment can result in viremia, adverse health-outcomes and increased HIV-transmission. We explored differences between individuals on antiretroviral-therapy (ART) with and without interruptions in treatment (IIT) in Malawi's HIV-program.
Methods: We conducted a retrospective-analysis of medical-records from 123-PEPFAR-supported health-facilities across nine districts in Malawi. Routinely collected data from individuals aged ≥15 years, enrolled on ART between September 2019-October 2021, were extracted from an electronic-monitoring-system, with all clients followed for 24-months from ART-initiation. IIT was defined as ≥28-days late for a scheduled appointment. Viral-load (VL) non-suppression was defined as a last available VL result ≥1,000 copies/mL. Individuals were categorized into: no-IIT, single-IIT, and ≥2-IITs. We compared demographic and treatment characteristics/outcomes between the 3 groups, using descriptive statistics.
Results: Among 44,615 individuals included, median age was 32-years (IQR:25-40), 81.5% had started ART within 7-days of HIV diagnosis, 94.4% on first-line dolutegravir-based ART, 60.9% were female of whom 20.5% were pregnant at ART-initiation. 66.1% had no-IIT, 22.8% single-IIT, and 11.1% ≥2-IITs. The median IIT duration was 70-days (IQR:42-122). IIT differed marginally by sex: among women, 65.5% no-IIT, 23.3% single-IIT, and 11.2% ≥2-IIT, compared to men 67.1%, 22.0%, and 10.9% respectively (p=0.002). IITs showed modest differences by age: among younger-adults aged 15-34-years 63.3% had no-IIT, 24.2% single-IIT, and 12.4% ≥2-IIT, compared to those aged ≥35-years (70.1%, 20.8%, and 9.1% respectively; p<0.001). Of all IIT-events (n=20,931), 24.0% occurred in 2019-20, 34.7% in 2020-21, 28.2% in 2021-22, and 12.0% in 2022-23 (p<0.001). Delayed ART-initiation (>7 days) was more frequent among those with IITs (17.5% no-IIT, 20.3% single-IIT, 20.0% ≥2-IITs, p<0.001). Among individuals with any VL-result (45.4%), prevalence of non-suppressed VL was higher in those with IITs (3.9% no-IIT; 6.7% single IIT; 10% ≥2-IITs; p<0.001). Pregnancy at ART-initiation was higher in women experiencing IIT (18.0% no-IIT; 24.8% single-IIT; 29.3% ≥2-IITs; p<0.001).
Conclusions: Over one-third of clients experienced an IIT within 24-months of ART-initiation. IITs occurred more frequently during COVID-19, after delayed ART-initiation, among younger individuals, and in women pregnant at ART-initiation. IITs were associated with viremia, particularly multiple interruptions. These findings highlight in whom interventions are most needed to support engagement in care.

EP0502

Antiretroviral therapy (ART) status and factor associated with ART use among orphaned and vulnerable children (OVC) living with HIV in Namibia: evidence from the project HOPE Namibia-implemented OVC program

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Background: Prompt initiation of antiretroviral therapy (ART) minimizes immune impairment in the initial stage of HIV infection, a factor critical for influencing future disease progression. Children and adolescents living with HIV (C/ALHIV) encounter numerous obstacles in using ART. This analysis assessed ART status and factors associated with ART uptake among C/ALHIV enrolled in the Namibia Orphans and Vulnerable Children (OVC) program.
Description: The program functions as a vital intervention aimed at improving the welfare of children affected by HIV, violence, poverty, and other vulnerabilities. The program employs a structured case management system to identify, assess, and address beneficiaries' needs, facilitating their progression toward independence and graduation from program support. Using a targeted approach, the program identifies C/ALHIV through home visits, facility referrals, and HIV risk assessments. In collaboration with care and treatment partners, the program also ensures comprehensive documentation of HIV-positive households and OVC and links them to ART.
Lessons learned: Of 4,599 participants, 4,441 (96.6%) were on ART, with a 95% confidence interval (CI) (96.1% – 97.1%). ART uptake was higher among participants from households with little or no hunger (Crude Odds Ratio (COR) = 2.19, 95% CI (1.40 – 3.43)) and specific regions like Eenhana

(adjusted odds ratio (AOR) = 8.24, 95% CI (2.58 – 26.37)) and Okongo (AOR = 5.22, 95% CI (1.22 – 22.38)). Conversely, participants aged 0-9 years, those never enrolled in school (COR = 0.26, 95% CI (0.18 – 0.37)), and those diagnosed or presumed to be with TB (AOR = 0.10, 95% CI (0.01 – 0.73)) were less likely to be on ART. Lower ART uptake was also observed among those from child-headed households and those subjected to sexual abuse or exploitation, COR = 0.04, 95% CI (0.02 – 0.06), and COR = 0.12, 95% CI (0.10 – 0.15), respectively.

Conclusions/Next steps: Integrating food support into HIV programs may enhance ART uptake, particularly for children in hunger-affected households. Initiatives to improve OVC school enrolment and targeted educational programs on ART benefits for C/ALHIV are crucial.

EP0503

Determinants of successful ART outcomes in children and adolescents in Kenya, 2021-2023

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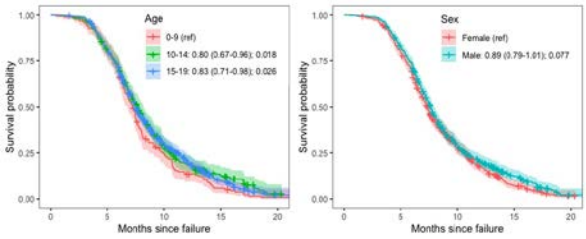
Background: Children and adolescents living with HIV (CALHIV) face unique challenges in achieving viral suppression, yet there is limited programmatic data to fully understand determinants of virologic failure (VF) and subsequent suppression.

Methods: We selected 40 HIV care clinics in Kenya to abstract data for CALHIV aged 0-19 years on antiretroviral therapy (ART) ≥6 months from 2021-2023. We abstracted clinical characteristics from electronic medical record system and routine viral load (VL) data from the National AIDS & STI Control Programme.

We used clinic-clustered generalized estimating equations to identify regimens associated with VF (≥1,000 copies/mL). Among CALHIV with VF, we used Cox proportional hazard models to evaluate factors of achieving suppression (<1,000 copies/mL).

Results: Among 7,429 CALHIV, median age was 12 years (interquartile range [IQR] 8-15) and 52% were female. A total of 20,386 VL results were obtained (median 3 [IQR 2-3] VL tests per person). Overall, 1,389 (19%) CALHIV ever had VF; risk of VF did not differ by age (0-9 years: 18.4%, 10-14 years: 18.7%, 15-19 years: 18.8%; p>0.9) or sex (female: 18.1%, male: 19.3%; p=0.2). In regression, VF was higher among those initiating lopinavir/ritonavir (LPV/r) than efavirenz (EFV)-based ART (prevalence ratio [PR] 1.29, [95% confidence interval 1.05-1.58]; p=0.01) and was similar between those initiating dolutegravir and EFV-based ART (PR 0.92 [0.69-1.23]; p=0.6).

Among 1,389 with VF, 1,117 (80%) had a next VL test and 972 (87%) attained suppression. Adolescents had lower suppression than children (0-9 years) (10-14 years: hazard ratio [HR] 0.80 [0.67-0.96]; p=0.01; 15-19 years: HR 0.83 [0.71-0.98]; p=0.03). Sex was not associated with suppression (males vs. females: HR 0.89 [0.79-1.01]; p=0.08).



Conclusions: Our findings highlight the importance of historical use of LPV/r and lower likelihood of maintaining suppression for 10-19 years adolescents. Strengthening care systems with adolescent-centered services may improve viral suppression in pediatric HIV care.

EP0504

Risk factors for treatment interruption among people with HIV in four African countries include HIV-associated negative social impacts, never disclosing HIV status to a partner, and history of viral failure

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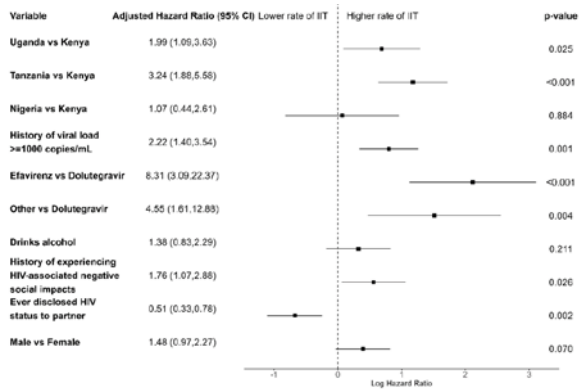
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Background: Adherence to antiretroviral therapy (ART) is necessary for viral suppression, which prevents negative health outcomes and HIV transmission. We identified factors associated with interruptions in treatment (IIT) among people with HIV (PWH) in four African countries.

Methods: The African Cohort Study enrolls people with and without HIV at 12 PEPFAR-supported sites in Kenya, Nigeria, Tanzania, and Uganda. At six-monthly visits, questionnaires are administered, which include reporting any of 14 types of HIV-associated negative social impacts experienced since last visit; ART data, including regimens and start/stop dates, are collected from medication re-

cords. These analyses included PWH with at least two study visits since starting ART. IIT was defined as any period ≥30 days not on ART. We estimated adjusted hazard ratios with 95% confidence intervals (CI) using a multivariable Andersen-Gill time-to-event model with robust standard errors, with independent variables chosen using purposeful variable selection.

Results: The analysis population included 3,071 PWH enrolled between January 2013 and August 2024. The median age was 36.7 years and 57.8% were female. Of these, 105 (3.4%) participants had at least one IIT. Participants with a history of experiencing HIV-associated negative social impacts had a 1.76 (CI=1.07-2.88, p=0.026) times higher rate of IIT than those who did not, and participants who had a history of viral failure had a 2.22 (CI=1.40-3.54, p=0.001) times higher rate of IIT than those who did not (Figure). Ever having disclosed HIV status to a partner was associated with a 0.51 (CI=0.33-0.78, p=0.002) times lower rate of IIT than never having disclosed. Country and ART anchor drug were also associated with IIT, with higher rates of IIT on efavirenz-based and other regimens compared to dolutegravir-based regimens (p<0.001 and p=0.004, respectively).



Conclusions: We identified several risk factors which can be used to characterize populations who may benefit from adherence-related interventions prior to experiencing an IIT.

EP0505

Spatiotemporal patterns and influencing factors of genotypic resistance testing utilization among people living with HIV: a decade-long retrospective analysis from Beijing Youan Hospital, China (2014-2023)

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Background: Nearly 90% of people living with HIV (PLWH) receive antiretroviral therapy (ART) worldwide, and genotypic resistance testing (GRT) provides important information for selecting ART regimens. However, no study systematically analyses the utilization patterns, temporal trends, and influencing factors of the GRT.

Methods: Data from 6,895 PLWH treated at Beijing Youan Hospital from 2014 to 2023 were analyzed. Temporal trends were identified using Joinpoint regression. Multivariable logistic regression assessed factors influencing GRT utilization, and spatial analysis was conducted with GeoDa and SatScan. Ethical approval for this study was granted by the Ethics Committee of Beijing Youan Hospital (Approval No: 2024-100).

Results: GRT rates showed a significant two-phase upward trend, increasing from 5.36% in 2014 to 74.17% in 2023, with an average annual percentage change of 31.30% (P < 0.001). Beijing residency (aOR = 2.596, 95% CI: 2.307-2.921) and older age were associated with higher GRT uptake. Specifically, 35-44 years (aOR = 1.207, 95% CI: 1.026-1.420), 45-54 years (aOR = 1.335, 95% CI: 1.104-1.613), and ≥55 years (aOR = 1.424, 95% CI: 1.126-1.802) had significantly higher odds of testing.

Lower testing rates were observed in individuals with lower education (high school or technical secondary: aOR = 0.827; junior high school: aOR = 0.835; primary school: aOR = 0.695), unknown STD history (aOR = 0.415), and non-heterosexual transmission routes (homosexual: aOR = 0.834). Spatial analysis identified GRT clustering across Beijing until 2021, with two space-time clusters identified in 2019-2023 and 2018-2022.

Conclusions: GRT uptake has substantially increased, with a more balanced distribution across districts since 2021. Age, education, STD history, and transmission route influence GRT utilization. Improving access, reducing costs, and targeted interventions are needed to optimize testing and guide ART decisions.

EP0506

Improving on-time antiretroviral clinic visits through total quality leadership and accountability: lessons from Southern Nigeria

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Background: Adherence to antiretroviral therapy (ART) is essential for achieving HIV viral suppression and improving the quality of life of people living with HIV (PLHIV). However, consistent adherence remains challenging due to various barriers. ECEWS, with funding from PEPFAR/USAID, implemented a Total Quality Leadership and Accountability (TQLA) intervention to improve adherence to ART clinic appointments among PLHIV in Cross River State, Nigeria. This study describes the outcomes of this intervention.

Description: This study involved 18 health facilities that accounted for 80% of missed ART clinic appointments across 64 PEPFAR-supported facilities in Cross River, from January to July 2024. TQLA was implemented in March 2024 and involved one-on-one sessions with clients who missed appointments and were contacted to identify clinic adherence barriers. Client-centred solutions like providing differentiated service delivery to address lack of transportation, treatment literacy to address misconceptions about ART, and updating inaccurate contact information in electronic medical records to facilitate pre-appointment reminders were implemented.
Regular situation room meetings were conducted to analyse facility-level data on attendance to clinic appointments, track progress with client follow-up, and maintain accountability. On-time ART refill data (proportion of clients who had an ART clinic appointment that showed up) was collected daily from electronic medical records and compared monthly over the study period, and key lessons learned were documented.
Lessons learned: There were 5,853 ART clinic appointments in January 2024, and 5,478 in July 2024. On-time ART refills increased from 40.3% (2,358/5,853) in January 2024 to 82.2% (4,505/5,478) in July 2024. Tailored treatment literacy sessions effectively addressed cultural and religious myths about ART, verifying and updating client contact details improved the effectiveness of pre-appointment reminders and follow-up calls, and the situation room meetings allowed for in-depth discussions based on real-time analysis of adherence data, to inform facility-specific interventions.
Conclusions/Next steps: The TQLA approach improved adherence to ART clinic appointments, highlighting the importance of targeted interventions, and regular use of granular data for performance improvement. This intervention is recommended for use by other programs to improve and sustain ART adherence.

EP0507

Factors associated with retention on antiretroviral therapy after 12 months of initiation among people living with HIV enrolled in case based surveillca in Rwanda from 2019 to 2023

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Background: Retention on antiretroviral therapy (ART) is a key indicator of achieving optimal HIV treatment success as it improves adherence, and prevention of drug resistance. Understanding factors associated with retention is crucial for improving HIV care and achieving sustained HIV viral load suppression. This study assessed factors influencing retention on ART after 12 months of initiation among PLHIV enrolled on ART between 2019 and 2023.
Methods: This was a retrospective cohort study using secondary data from adult PLHIV enrolled on ART in 2019 to 2023 in all health facilities across the country. Data on socio-demographic, sexual behaviors and clinic characteristics was extracted from Rwanda's Case-Based Surveillance CBS system. Multivariate logistic regression was performed using R programming to determine factors independently associated with ART retention. Adjusted odds ratio at a 95% confidence interval was obtained, and a P-value <0.05 was considered statistically significant.
Results: A total of 23,869 PLHIV were included in the analysis, of whom 64.6% (15,426) were female, and 72.4% (17,288) were aged between 25 and 49 years. The majority of participants, 36.3% (8,672), resided in Kigali City, while 13.4% (3,171) were diagnosed with advanced HIV disease at enrollment. Overall retention on ART was 95.6% (22,828), with a higher retention rate (96%) observed among those aged 25–49 years. Multivariate logistic regression revealed that retention after 12 months was significantly associated with age, sex, and marital status. Participants aged 25–49 years (AOR: 1.4, 95% CI: 1.2–1.7) and those aged 50 years and above (AOR: 1.3, 95% CI: 1.0–1.7) were more likely to remain on ART. Conversely, males were less likely to retain (AOR: 0.7, 95% CI: 0.6–0.8). Additionally, being married or in a union was positively associated with retention (AOR: 1.3, 95% CI: 1.1–1.5). However, individuals diagnosed with advanced HIV disease at enrollment were less likely to remain on ART (AOR: 0.7, 95% CI: 0.6–0.8).
Conclusions: Retention on ART among PLHIV in Rwanda remains high, yet significant gaps exist for specific subpopulations. Targeted interventions addressing demographic and clinical risk factors could further improve ART retention and contribute to sustained viral suppression.

EP0508

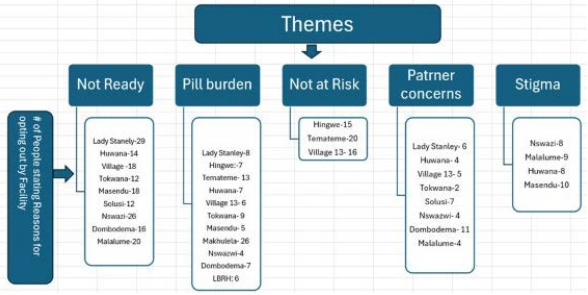
Exploring reasons for opting out of PrEP initiation in Bulilima district: a quantitative analysis of barriers and concerns

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Background: According to the Zimbabwe Population HIV Impact Assessment 2022, Matabeleland South has the highest prevalence of HIV at 22%, double that of the nation. Implementing Pre-exposure Prophylaxis (PrEP) is beneficial in lowering HIV infections. However, its use is suboptimal, especially in vulnerable communities like Zimbabwe's rural district of Bulilima in Matabeleland South. Understanding the reasons for hesitancy in starting PrEP is crucial for developing effective interventions. This program aimed to quantify the barriers and concerns affecting PrEP acceptance in the district, addressing issues such as perceived risk, stigma, medication fears, and interpersonal relationships.
Description: We conducted this study from October 2024 to December 2024, during a period of stable PrEP supplies. We worked with community partners, peer educators, and local clinics to engage people who were at high risk of HIV to investigate reasons for not taking PrEP. Relevant interventions included health dialogues, safe-space education, and customized counseling to address medication issues and stigma. Person readiness to start PrEP

and the reasons for their opt-out were determined using a structured questionnaire, generating quantifiable data that guided the design of interventions with 392 people reached across 13 facilities.

Lessons learned: The project identified barriers that hinder PrEP initiation. Notably, 42% of respondents stated that they were "not ready," 25% concerns about pill burden across all the facilities. 11% stated partner concerns, and 13% thought they were "not at risk," suggesting a lack of understanding. Stigma and misconceptions affected 9% of participants. These reasons for non-uptake were systematically addressed resulting in an improvement of PREP uptake from 30% in 2022 to 58% by Dec 2024.



Conclusions/Next steps: PrEP uptake can be greatly increased by addressing barriers associated with risk knowledge, pill burden, and preparedness. To attain sustainable health outcomes in HIV care, future work will concentrate on enacting these tactics and modifying them for various situations.

EP0509

Clinical outcomes among ART clients enrolled in six-month dispensing after less than 6 months on treatment in Zambia

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Background: Since 2017, Zambia has scaled up multi-month scripting and dispensing of antiretroviral therapy (ART) among established clients (viral load <1000 copies/ml) on ART for ≥6 months. During the COVID-19 pandemic (3/2020-1/2022), eligibility was extended to those on ART for ≥3 months to reduce clinic congestion.

We compared rates of interruption in treatment (IIT) between clients enrolled on six multi-month scripting (6MMD) at 3 to <6 months on ART ("early enrollers") and those enrolled at ≥6 to 12 months on ART ("standard enrollers").

Methods: We emulated a target trial using Zambian electronic medical records (SmartCare) from 12 public healthcare facilities. Established clients ≥15 years who initiated ART from 01/01/2019-01/12/2022 were included. We used a clone, censor, and weighting approach to estimate IIT rate differences (RD) and ratios (RR) with 95% Confidence Intervals (CI) up to 18 months post-ART initiation. IIT was defined as missed clinic/pharmacy appointment >28 days with no proof of re-engaging during the study period. We used pooled logistic regression to calculate inverse probability of censoring weights and used time-to-event analysis to estimate IIT rates, with person-time calculated from 3 to 18 months after ART initiation.

Results: We included 10,423 unique eligible clients (median age 32 [IQR: 26-39] years; 65% female), including 12% early enrollers, 28% standard enrollers, and 60% eligible but not enrolled in 6MMD ≤12 months after ART initiation. There were no differences in the rate of IIT between early enrollers and standard enrollers (RD: 0.03 [95% CI: -0.02 to 0.06], RR 1.06 [95% CI: 0.97-1.13]).

Conclusions: Our findings suggest that early enrollment into 6MMD, after 3-6 months on ART, does not increase IIT, suggesting it could be introduced after the initial two medication refill visits among established clients.

Although the TTE methodology reduces confounding, limitations include unmeasured confounders, potentially leading to under- or over-estimation of IIT rates. Lack of data for defining eligibility for early enrolment into 6MMD from EMR records may also have introduced selection bias.

EP0510

Treatment interruption among pregnant and breastfeeding women on antiretroviral therapy in Midlands and Manicaland Provinces of Zimbabwe, 2024

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Background: Vertical transmission of HIV is a significant public health concern, accounting for more than 90% of paediatric infections globally. HIV morbidity and mortality have declined over the last decade due to increased Antiretroviral Therapy (ART) coverage and prevention of HIV transmission from mother to child (PMTCT). Despite these efforts, in 2023, Zimbabwe recorded an MTCT rate of 7.2% against a national target of < 5%. This underscores the need to ensure ART adherence among pregnant and breastfeeding women living with HIV. We assessed treatment interruption among pregnant and breastfeeding women living with HIV on ART in Midlands and Manicaland provinces.

Methods: We conducted an analytical cross-sectional study focusing on pregnant and breastfeeding women on ART in 317 purposively selected Tier 1 and Tier 2 health facilities (500 ART clients) across 9 districts of Midlands and Manicaland provinces for the period April to June 2024. Cli-

ent-level data were abstracted from facility registers, analysed using MS Excel generating proportions, and measures of central tendency. The assessment was approved by Medical Research Council of Zimbabwe (MRCZ/E/159).

Results: Data for 6,909 women were abstracted of which 1,677 (24%) were pregnant, and 5,232 (76%) were breastfeeding. Most pregnant women (24%) were in the 25-29-year-age group and 1,253 (23.9%) breastfeeding women were in the 30-34-year-age group. About 98.7% (1,656/1,677) pregnant women and 96.9% (5,072/5,232) breastfeeding women were on a Dolutegravir (DTG) ART regimen. About 0.89% (15/1,677) of pregnant women failed to continue with ART, of which 9 of them interrupted treatment i.e., failed to report to facilities within 28 days of their scheduled appointment, 5 stopped or refused treatment, and 1 died. Among breastfeeding women, 28 (0.5%) failed to continue with treatment of which 23 (82.1%) of these had treatment interruption, 2 (7.1%) stopped or refused treatment, and 3 (10.7%) died.

Conclusions: Treatment continuity was high among pregnant and breastfeeding women, with breastfeeding women having lower treatment interruption rates that pregnant women. We recommend developing targeted interventions including enhanced monitoring, education, and counselling to support pregnant women to continue ART, as well as further studies to understand determinants of treatment interruption and reasons for use of non-DTG-based ART regimens.

EP0511

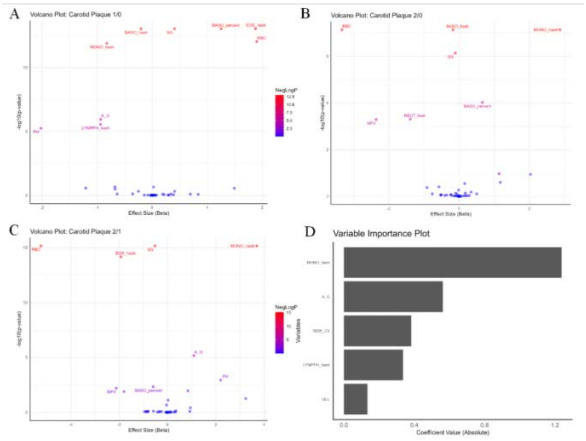
Clinical markers associated with carotid plaque status in people living with HIV: a cross-sectional analysis

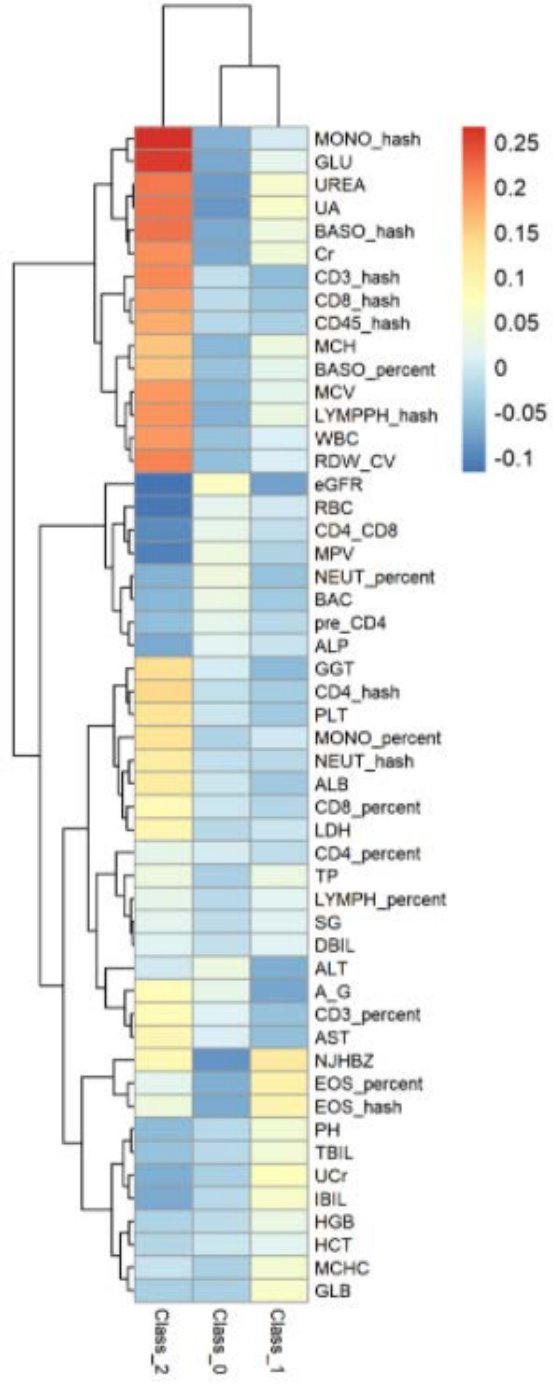
X. Li[1,2], L. Liu[2], J. Huang[2], J. Chen[2], L. Wang[2], R. Zhang[2], T. Qi[2], Y. Ding[3], Z. Wang[2], Z. Zhao[1,2], J. Wang[2], J. Sun[2], S. Xu[2], Y. Shen[2]

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Background: Carotid artery plaques are considered one of the intermediate markers for atherosclerosis progression. By analyzing the influencing factors of carotid plaques based on 51 commonly measured clinical indicators during routine check-ups in PLWH, differences in the clinical characteristics of populations with varying carotid plaque statuses can be identified.

Methods: This cross-sectional study included 1,228 PLWH who underwent carotid ultrasound screening between March and October 2024. A total of 51 routine clinical laboratory markers, including hematologic and biochemical parameters, were extracted from electronic medical records based on proximity to the screening date. Hierarchical clustering heatmaps were employed to display the differences in standardized indicators across three groups: no plaque, unilateral plaque, and bilateral plaque. Stepwise logistic regression was used to rank the importance of variables, and a random forest model was subsequently trained to identify PLWH at high risk for bilateral carotid plaques.





Results: The heatmap analysis visually revealed an elevated trend in inflammation-related cell types within the bilateral carotid plaque group. The volcano plot gener-

ated from the logistic regression analysis indicated substantial differences across groups for several markers, including red blood cell count, absolute basophil count, absolute eosinophil count, absolute monocyte count, and urine specific gravity.

Conclusions: Significant differences in various routine laboratory indicators were observed among the three groups. These differences may be associated with inflammatory mechanisms underlying atherosclerosis progression.

Additionally, the potential for utilizing multiple routine clinical test results to screen high-risk populations presents promising opportunities for the targeted prevention and management of atherosclerotic cardiovascular disease in PLWH.

EP0512

Unveiling maternal and infant factors in childhood HIV transmission – insights from Ugandan military health facilities

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Background: There has been significant progress in preventing mother-to-child transmission (MTCT) of HIV in Uganda, with MTCT rates now below 5% among infants born to mothers adhering to antiretroviral therapy (ART), in line with global prevention of mother-to-child transmission (PMTCT) goals.

However, challenges remain, particularly among young mothers who do not use safe delivery methods, those who discontinue ART during pregnancy or breastfeeding, and HIV-exposed infants (HEIs) who miss prophylactic treatment. The UNAIDS Spectrum Model estimates that 5,500 new childhood HIV infections occurred in 2021 due to MTCT, nearly half of which were linked to young mothers and HEIs with inadequate interventions.

Rural and underserved areas still report gaps in program delivery and outcomes. Identifying maternal and infant factors associated with MTCT and analyzing routine data from 31 high-volume military health facilities was crucial to address risks, guided by tailored interventions to close gaps in Uganda's PMTCT programs.

Description: A retrospective analysis was conducted on 1,630 HEIs registered from April 1, 2022, to September 30, 2024. Data on maternal age, education, family support, delivery methods, Nevirapine (NVP) prophylaxis, ART, viral suppression, and infant HIV status were collected. Descriptive analysis using STATA was conducted to identify positivity rates and associated factors.

Lessons learned: Results showed that 32 HEIs were diagnosed with HIV at an average age of 29 weeks (SD: 4.3), with 19% having received NVP prophylaxis. The mothers had an average age of 23.5 years (SD: 7.2), and 53% were not on ART at the time of presentation, while 47% had a negative HIV test result at their previous visit. Suppression rates were 50% among those on ART. Additionally, 22% of these mothers did not have safe deliveries at health facilities. Regarding education, 59% attended secondary school and 41% attended primary school, with 32% not living with their male partners.

Conclusions/Next steps: In conclusion, 2.3% of HEIs acquired HIV despite comprehensive PMTCT services. Most infections occurred postnatally, particularly among women who tested later than recommended, indicating disengagement from the PMTCT program. High vertical transmission rates during breastfeeding suggest a need for targeted interventions during postnatal care, especially for women who miss early infant diagnosis.

EP0513

Optimizing HIV care for children and adolescents with HIV in India: insights from a six-year national analysis of treatment outcomes

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Background: India has the largest population of children and adolescents living with HIV (C/ALHIV) in Asia, majority with perinatally-acquired HIV, who face heightened vulnerabilities. Despite India's robust public health system, large-scale data on treatment outcomes for C/ALHIV remain limited. We aimed to analyze treatment outcomes among C/ALHIV in India to inform targeted strategies for improving long-term care and support.

Methods: We conducted a six-year retrospective analysis of national-level data through ACCELERATE, a differentiated service delivery program within the national program in six high-burden states in India (Andhra Pradesh, Maharashtra, Telangana, Manipur, Mizoram and Nagaland) that collectively represent a third of the country's total HIV burden. Sociodemographic, health-related and longitudinal follow-up data were analyzed using descriptive statistics and logistic regression.

Results: Between 2020-2024, 12,446 C/ALHIV enrolled in ACCELERATE; 9,051 were active at analysis (17% transitioned, 4% migrated, 4% dropped out, 3% died). Median age at enrollment was 12 years (IQR 9-14); 53% were male, 47% female, and 1 transgender individual. Orphans constituted 55%, having lost one (36%) or both (19%) parents; 95% lived with parents/relatives, and 4% were in childcare institutions. School cessation was reported by 5%, and 13% reported incomplete vaccinations. Among 7,523 who underwent tuberculosis screening, 5% screened positive, of whom 15% were confirmed positive. Among 7,019 with a viral load test within 12 months, 94% were virally suppressed. Viral suppression trends increased from 72% in 2021 to 90% in 2024. Since the national government's timely introduction of Dolutegravir into the ART regimen in 2021-2022, viral suppression improved significantly among C/ALHIV on Dolutagravir-based ART (OR: 1.76, 95%CI: 1.44-

2.14). In univariate analysis, viral suppression was significantly higher among C/ALHIV on ART for ≥10 years (OR 2.18, 95%CI: 1.22-3.87), and those aged 6-17 years (OR 1.75, 95%CI: 1.33-2.29), suggestive of less optimal control while transitioning from adolescence to adult care.

Conclusions: This study highlights progress in C/ALHIV care in India, especially with Dolutegravir-based ART, showcasing the impact of optimized strategies and sustained programmatic efforts. Challenges like orphanhood, incomplete vaccinations, tuberculosis, and school cessation underscore the need for integrated medical, psychosocial and educational interventions for C/ALHIV to ensure successful long-term outcomes and adult care transition.

EP0514

Characterizing HIV positivity rate among previously negative pregnant and breastfeeding women by age in 15 PEPFAR/USAID-supported districts in South Africa: a cross sectional program analysis

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Background: In South Africa, maternal incident HIV acquisitions contribute to 48% of new infant HIV acquisitions yearly, 13% occurring during pregnancy and 35% during breastfeeding (BF). In fiscal year (FY) 2024 (October 1 2023 to September 30 2024), PEPFAR updated reporting guidance to include disaggregates for testing after the first antenatal care visit (post-ANC1) for previously-negative women by 1) pregnancy/labor and delivery (PLD), and 2) BF. We characterized the age-disaggregated positivity rates of previously-negative women retested for HIV during PLD and BF to inform age-specific prevention programming.

Description: We analyzed FY24 retrospective age-disaggregated program data reported for post-ANC1 testing collected from health facilities in 15 USAID/PEPFAR-supported districts. Data for women with a documented age ≥15 years was included. We calculated the positivity rate as: [Number of women with a positive test / (Number of women with a positive test + Number of women with a negative test)].

	PostANC1 Pregnancy / Labor and Delivery			PostANC1 Breastfeeding		
Age	Number of tests	Number of positive tests	Positivity rate (%)	Number of tests	Number of positive tests	Positivity rate (%)
15-19	101,105	81	0.1%	3,221	11	0.3%
20-24	181,957	234	0.1%	5,170	22	0.4%
25+	351,460	1,540	0.4%	9,468	103	1.1%
All Ages	634,522	1,855	0.3%	17,859	136	0.8%

Lessons learned: In FY24, 634,522 post-ANC1 tests were performed among women during PLD, with 17,859 post-ANC1 tests performed among women who were BF. The positivity rate was 0.3% for PLD and 0.8% for BF. The positivity rate for both testing modalities increased by age band, with 0.1% PLD and 0.3% BF among 15-19 year old women; 0.1% PLD and 0.4% BF among 20-24 year old women; and 0.4% PLD and 1.1% BF among 25+ year old women.

Conclusions/Next steps: The higher positivity rate among previously-negative BF women and women 25 years and older, both up to fourfold, compared to PLD and among younger women calls for urgent action to address the prevention needs for this sub-population during the postpartum period. To curb further incident HIV acquisitions, tailored comprehensive interventions for HIV-negative BF women remain key, including improving health literacy regarding risk awareness and empowerment to improve uptake of prevention services. As quality-assured post-ANC1 testing during BF scales up, future analyses aim to characterize the timing of maternal seroconversion to prevent vertical transmission and close gaps in South Africa.

EP0515

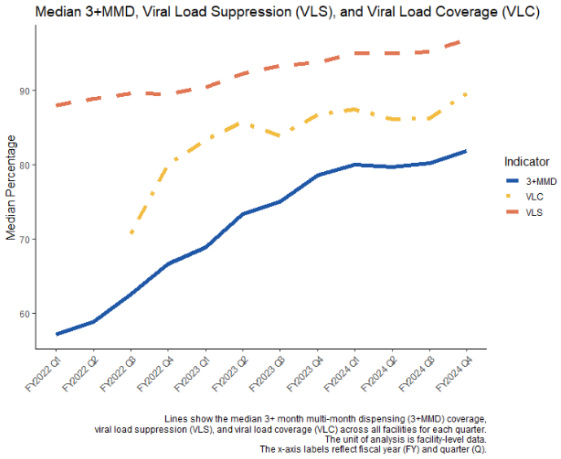
Exploring the relationship between multi-month dispensing of ART on viral load coverage and suppression among children living with HIV in USAID/PEPFAR-supported country programs

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Background: Multi-month dispensing (MMD) of antiretroviral therapy (ART), which provides a 3+ month supply of medication, reduces the logistical burden on families of children living with HIV (CLHIV). However, most published research focuses on adults, and barriers to pediatric MMD implementation include concerns about decreased healthcare interactions negatively affecting virologic outcomes. We hypothesized that pediatric MMD, viral load coverage (VLC), and suppression (VLS) would increase at USAID/PEPFAR-supported facilities during the study period.

Methods: We analyzed routinely-collected pediatric (<15 years) PEPFAR data (FY2022-2024), which are reported at the facility level. Key facility-level measures included: 3+MMD (proportion of CLHIV on ART receiving an ART supply of ≥3-months); proxy VLC (number of CLHIV on ART with a viral load result documented in a given quarter / number of CLHIV on ART two quarters prior); and VLS (number of CLHIV with a suppressed viral load <1000c/mL / number of CLHIV with a viral load result).

Results: There were 8383 facilities from 22 countries included in the analysis. Increases in overall mean 3+MMD (54.9% in FY2022 to 70.2% in FY2024), proxy VLC (74.0% to 85.6%), and VLS (83.7% to 88.9%) were observed from FY2022-FY2024. Similarly, median 3+MMD increased from 61.1% (interquartile range (IQR) 20.0-87.8) in FY2022 to 80% (IQR 50-100) in FY2024, proxy VLC increased from 75% (IQR 50.0-97.1) to 87.5% (IQR 68.8-100), and VLS increased from median 88.9% (IQR 75-100) to 95.5% (IQR 83.3-100) (Figure).



Conclusions: 3+MMD, proxy VLC, and VLS increased from FY2022-FY2024 in USAID/PEPFAR supported facilities. Although the aggregated nature of the data and potential confounders, such as pediatric dolutegravir rollout and potential cross-site client mobility, limit causal inference and preclude client-level conclusions, we did not find evidence that scaling up 3+MMD negatively impacts proxy VLC or VLS. Further studies are needed to confirm these findings and address remaining questions about optimal pediatric MMD implementation.

EP0516

Optimization of the Vertical Transmission Prevention Program in South Sudan: impact of the improvement interventions on performance indicators in Western/Central Equatoria States

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Background: The use of services to prevent vertical transmission (VT) of HIV remains a major challenge in South Sudan; where it is estimated that VT of HIV to infants is at 25%. In the last year, the Catholic Medical Mission Board (CMMB) implemented targeted interventions to increase the use of VT prevention (VTP) services by pregnant and breast-feeding women. This analysis of program data aims to facilitate understanding of the progress and gaps in achieving the national and international targets towards the elimination of VT of HIV in Western (WES) and Central Equatoria States (CES).
Description: The CMMB with support from CDC/PEPFAR undertook targeted actions to eliminate VT in South Sudan. We assess trends in the uptake of VT services to enhance the VTP through a comprehensive quality improvement plan implemented across 13 counties of WES and CES from October 2023 to September 2024. Routine data on VTP were analyzed to compare VTP metrics during the implementation period following the VTP interventions and improvement initiatives implemented in the same period.
Lessons learned: Of the 18,929 women who attended their first Antenatal Care, 99% had their HIV status ascertained. Those whose HIV status was ascertained, 1,148 were identified as HIV positive of which 99% were initiated or already on ART. The implementation of this strategy significantly increased HIV status ascertainment and ART coverage among HIV infected Pregnant and Breast-Feeding Women.
The analysis revealed geographical disparities in the use of VTP services; however, the VTP strategy contributed to better care for mother–child pairs and significantly improved the VTP indicators.
Conclusions/Next steps: The VTP interventions enhanced HIV status ascertainment and ART use among PBFW, demonstrating the benefits of structured interventions and capacity development. Strengthening strategies to effectively engage women on the use of the VTP cascade services could help reduce VT of HIV transmission in South Sudan.
This analysis will support the adaptation of intervention strategies to enhance the care of HIV-infected pregnant and breast-feeding women and cascade to infants exposed to HIV in similar settings. Future initiatives aim to equip more facilities with essential resources and promote VTP in underserved areas of South Sudan.

Monitoring the epidemiology, impact and prevention of new or resurgent pathogens

EP0517

Exposure to toxic chemical elements and kidney function among people living with HIV/AIDS in Northern Tanzania

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Background: Environmental exposure to toxic chemicals including cadmium (Cd), lead (Pb), and mercury (Hg), are known risk factors for kidney disease. In People living with HIV/AIDS (PLWH), kidney disease is the leading cause of death. Neither traditional risk factors nor markers of HIV infection fully explain such an increased risk.
This study aimed to determine the Toxic Chemical Elements exposure and its association with Kidney Function among People Living with HIV/AIDS in Northern Tanzania.

Methods: This was a Longitudinal Prospective Parallel-group Cohort study that compares toxic chemical levels (T-Cd, T-Pb, and T-Hg). A total of 500 HIV-infected and 500 non-HIV-infected subjects were analyzed. Spearman's rank correlations were used to examine the relationship between toxic chemical elements. Modified poison regression was used to determine the association between exposures and the outcome of interest among study participants.

Results: Irrespective of the HIV status, blood T-Cd, T-Pb, and T-Hg levels were found at levels above the reference value of 5, 50, and 20 µg/L, respectively. Overall, correlates of blood toxic chemical levels included vegetable serving per week, BMI, water sources, use of alcohol, and HIV status. Among HIV-positive naïve, weekly vegetable serving, provided a protective effect against T-Cd (Coeff=-0.03, 95%CI=- 0.06, -0.01) and T-Pb (Coeff=-0.05, 95%CI=- 0.09, -0.01) exposure among HIV-infected subjects.

Participants with cadmium level of >5(µg/L) had a 7% higher prevalence of kidney disease (aPR=1.07, 95%CI=0.59, 1.91) as compared to their control with cadmium level of ≤5 (µg/L).

Participants with Mercury level of >20(µg/L) had a 29% higher prevalence of kidney disease (aPR=1.29, 95%CI=0.92, 1.80) as compared to their control with Mercury level of ≤20 (µg/L).

Participants with Cadmium >5(µg/L) and Mercury level of >20(µg/L) had 2 times higher prevalence of kidney disease (aPR=2.12, 95%CI=0.49, 9.03) as compared to their control with Cadmium ≤5 (µg/L) and Mercury level of ≤20 (µg/L).

Conclusions: Individuals in northwestern Tanzania, including PLWH, have higher blood levels for T-Cd, T-Pb, and T-Hg. Correlates of such higher blood levels include water sources, nutrition status as indicated by BMI, use of alcohol, duration of exposure to indoor smoke, and HIV status. Higher levels of toxic chemical elements potentiate kidney disease.

EP0518

Epidemiological trends of mpox and HIV co-infection in Nigeria: a systematic review and meta-analysis from 2017-2024

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Background: Mpox, a re-emerging zoonotic viral disease, has become a significant public health concern, particularly in vulnerable populations such as people living with HIV (PLHIV). Immunosuppression in PLHIV may alter the course and severity of Mpox, increasing morbidity and mortality rates.

This study aims to assess the epidemiological trends of Mpox among PLHIV in Nigeria between 2014 and 2024, identifying factors influencing disease incidence, progression, and outcomes.

Methods: Seven studies out of 115 available articles were eligible and included in this systematic review. Relevant articles were searched, screened, and included in this study according to the criteria for Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Databases such as PubMed, Scopus, and African Journals Online (AJOL) were searched using keywords "Mpox," "HIV," "Nigeria," "immunosuppression," and "epidemiology."

Studies focusing on Mpox among PLHIV in Nigeria were included between 2014 and 2024. The risk of bias in primary studies was assessed using Cochrane's method. Stata version-9 was used to estimate pooled prevalence and identify significant epidemiological trends. Logistics regression conducted to identify risk factors for Mpox at p-value of <0.05. Subgroup analyses assessed variations based on geographic location, age, and gender.

Results: Mpox incidence in PLHIV in Nigeria showed a fluctuating trend, with a peak in 2017 and subsequent waves in 2020 and 2022. Pooled prevalence of Mpox among PLHIV was 8.3% (95% CI: 6.5%-10.2%). PLHIV with lower CD4 counts (<200 cells/mm³) exhibited more severe clinical manifestations, including prolonged illness duration, higher rates of secondary bacterial infections, and increased case fatality rates (CFRs).

The CFR among Mpox cases in PLHIV was 12.6%, significantly higher than in the general population. Risky sexual behaviour and exposure to confirmed cases are associated risk factors.

Conclusions: The risk of contracting and dying from mpox was higher in those living with HIV. The findings suggest that immunosuppression contributes to worse clinical outcomes, emphasizing the need for targeted public health interventions.

Enhanced surveillance, early diagnosis, and integrated HIV-Mpox management strategies are critical to mitigating the impact of future outbreaks. Strengthening vaccination efforts and improving healthcare access for PLHIV should be prioritized to reduce the burden of Mpox in this vulnerable group.

EP0519

Silent circulation of Monkeypox virus in Mali: insights from pre-epidemic serological evidence among healthcare workers

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Background: Monkeypox virus (MPXV) outbreaks are recognized as a public health emergency of international concern. The increasing incidence and geographical spread of Mpox cases, particularly those attributed to clade Ib in Africa, highlight the insufficient control of Mpox epidemics. Despite this, data on Mpox epidemiology in Africa remains scarce. Like many other West African countries, Mali has not reported any Mpox cases. However, diagnostic systems have not yet been implemented, and potential rodent reservoirs, such as *Mastomys natalensis*, are present.

This study aimed to determine whether a high-exposure population in Mali has been in contact with Mpox.

Methods: A retrospective study was conducted among healthcare workers (HCWs) from referral hospitals in Bamako. The MesoScale Diagnostics® Orthopoxvirus assay, a multiplex electrochemiluminescence-based ELISA targeting five Mpox and five vaccinia antigens, was used. Seropositivity was defined as an E8L-MPXV response above 1500 AU/ml. Titers between 1000 and 1499 AU/ml were classified as borderline. Clinical and socio-demographic data were obtained from participants' records.

Ethical approval was granted by the Ethics Committee of the University of Sciences, Techniques, and Technologies of Bamako (2024/222/CE/USTTB).

Results: Samples from 195 HCWs collected in 2021 and 2022 were retrospectively analyzed. The median age of participants was 29 years; 42.6% were female, 33.3% were medical doctors, and 23.6% were paramedical staff. Two participants (1.02%), a 29-year-old male doctor and a 25-year-old female nurse, tested positive with E8L-MPXV titers of 8663 AU/ml and 1572 AU/ml, respectively.

Two additional participants (1.02%), a 33-year-old male doctor and a 29-year-old male nurse helper, had borderline titers of 1102 AU/ml and 1074 AU/ml, respectively. None of these individuals had relevant medical histories, and all resided in Bamako, an urban area.

Conclusions: Mali has not resumed Orthopoxvirus vaccination since the conclusion of the WHO smallpox eradication program. The detection of Mpox-positive serologies among HCWs under 30 years of age, using samples collected before 2022, suggests pre-epidemic circulation of Mpox in Mali. To contain Mpox epidemics effectively, it is critical to enhance our understanding of its epidemiology and develop targeted screening and response strategies.

EP0520

Cervical cancer screening at ART initiation among newly diagnosed HIV positive clients at AIDS Healthcare Foundation Clinic, Matsapha, Eswatini

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Background: Eswatini has the highest rate of cervical cancer (CxCa) in the world. However, CxCa screening uptake remains low in the country increasing risk of late stage cervical cancer detection among women living with HIV. Retrospective data showed that only 5% of HIV positive women enrolled on ART at AHF Matsapha clinic have been screened for CxCa.

In 2022, we implemented a "Test, Screen Cervical Cancer and Start ART" initiative to allow early detection and treatment of pre-cancerous cervical lesions among women initiated on ART at AHF Matsapha.

Description: AHF Matsapha clinic resolved to expand the Test and Start strategy to "Test, Screen CxCa and Start ART". Consolidating screening for cancer and starting ART on the same day of HIV diagnosis instils a good healthcare practice among newly diagnosed HIV positive women.

Lessons learned: Data collected in our AHF benchmarking tools demonstrates a sustained increase in the number of Visual Acetic Acid (VIA) screening procedures performed from January 1st 2023 to December 31st 2024. During the aforementioned period, 253 women were diagnosed HIV positive. Among those clients, 208 were eligible for cancer screening either by VIA or Pap Smear.

The remaining 45 clients were not eligible at the time of HIV diagnosis considering that they were either; pregnant (29), presenting with a painful genital lesion (11), had active heavy bleeding (9) or was a minor (2). Out of the eligible clients, 80% were screened by VIA or PAP smear on the day of HIV diagnosis.

The remaining portion were subsequently screened promptly after the impeding condition resolved making a total of 98% screened for VIA. A total of 17(8%) clients screened VIA positive and were treated by cryotherapy, Loop Electrosurgical Excision Procedure (LEEP) and specimens were sent for biopsy and referred for further management.

Of note, a significant figure, 96(38%) of the clients were syndromicaly diagnosed and treated for Sexually Transmitted Infections (STIs).

Conclusions/Next steps: CxCa screening at the start of ART is key for three reasons: enables early detection and treatment of precancerous lesions and STIs, promotes routine screening practice among clients, and integrates VIA into the ART monitoring package.

Social science theories, frameworks, concepts and methods

EP0521

Cannabis use for mental health and trauma management among older women living with and without HIV: a sociological perspective

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Background: Global cannabis use is rising among older adults. In the U.S., ~9% of adults >50 reported past-year use, with much higher prevalence (~27%) among women with HIV (WWH). Yet, motivations for cannabis use and contextual drivers remains underexplored, particularly among older WWH who are understudied.
Utilizing the Socioecological Framework, we examined cannabis use across individual, interpersonal, community and societal levels among older WWH and without HIV (WWoH).
Methods: We conducted semi-structured interviews between June-September 2024 with women enrolled in the Chicago-Cook County Research Site of the MACS/WIHS Combined Cohort Study. Interviews were conducted virtually utilizing audio features only, recorded, and transcribed verbatim. A codebook was developed deductively and inductively, and transcripts were coded by three researchers. We conducted thematic analysis, identifying patterns and synthesizing overarching themes.
Results: We interviewed 20 WWH and 10 WWoH. The mean age of participants was 66.5, and most identified as Black (73%) and Hispanic (10%). Women shared that primary motivations for cannabis use were mental health, pain management (e.g. arthritis), and sleep. WWH more frequently described cannabis use for managing "stress, anxiety, and coping" and linked cannabis use to trauma-related experiences including acquiring HIV. WWoH associated cannabis use with "relaxation and calming" reflecting different lived experiences despite similar socioeconomic backgrounds. WWH uniquely reported using cannabis to enhance motivation and energy, which some linked to being able to get up and "face the day". Early cannabis use was shaped by peer influence for both groups and trauma for WWH, while adult use was framed as therapeutic to address chronic conditions and as an alternative to other substances and prescribed medications. Trust emerged as a topic among both groups; women favored trusted resources over dispensaries, even post-legalization.
Conclusions: This study highlights the multi-level influences on cannabis use and the nuanced role of cannabis in addressing trauma and mental health, particularly among WWH, for whom it may serve as a means of emotional regulation and improving daily functioning. Future research should explore cannabis as a therapeutic tool for older WWH navigating complex health and social challenges, offering insights to inform global public health strategies and education.

EP0522

Understanding men's engagement in transactional sex: piloting a new measure and framework in an urban informal area in South Africa

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Background: Transactional sex is a risk factor for HIV but our understanding of this behaviour in men is incomplete. Gaps include:
1. Measurement challenges,
2. Limited information about which men are most likely to engage in transactional sex, and;
3. No framework describing men's motivations for engagement in transactional sex exists.
Methods: We developed and piloted a new measure of transactional sex focusing on men's giving of gifts/money to women who are not sex workers or wives in an urban informal settlement near Johannesburg, South Africa. 1,509 men aged 18-42 years self-completed sociodemographic, criminal behaviour, sexual risk behaviour, Gender Equitable Men Scale, Sexual Relationship Power Scale, and violence perpetration (WHO-multi-country instrument) questions.
We conducted a latent class analysis (LCA) to explore how groups of men engage in transactional sex based on their violent and antisocial behaviours. Fit for each class was assessed using the likelihood ratio test, adjusted Bayesian Information Criterion and consistent Akaike Information Criterion. Multivariable logistic regression in Stata v17 examined associations between transactional sex and classes, adjusting for sociodemographic and attitudinal factors.
Results: Some 23% of sexually active men reported engaging in transactional sex with a casual or ongoing secondary partner in the past year.

The LCA identified three classes:
1. Nice enough guys (69%) had relatively low levels of violence,
2. Power and control seekers (24%) displayed higher levels of economic and emotional violence and risky sexual behaviours
3. Aggressors (7%) displayed consistently violent behaviour.
Power and control seekers were 2.6 times more likely than nice enough guys to engage in transactional sex (AOR 2.56, 95%CI 1.91–3.53). Aggressors were 4.5 times more likely to do so (95%CI 2.74-7.35).
Our proposed framework suggests that that motivations for men's engagement in transactional sex are related to hegemonic masculinities.
Conclusions: This was the first study to use the new measure of transactional sex and to do so in an urban informal area, where HIV incidence is high. Men who engage in violent and antisocial behaviours are more likely to engage in transactional sex, suggesting that it is related to seeking greater power and control.

EP0523

Development of the management guidelines for youth in HIV support groups in Eswatini

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Background: The study consists of two related aims, which were to explore the lived experiences of youth in HIV support groups in Eswatini and to develop management guidelines for youth living with HIV (YLHIV) in Eswatini.
Methods: The research employed a qualitative approach following a descriptive phenomenological design to capture the subjective experiences of YLHIV. Data was collected from 30 participants aged 15-24 across four regional hospitals in Eswatini. In-depth unstructured interviews were conducted in English and SiSwati, following participants' informed consent. interviews are conducted using a language preferred by the participants.
The data was analysed using five steps for qualitative data explication. Research ethics were observed per the Belmont report and the University of South Africa's (UNISA) standards.
Results: Four major themes emerged:
1. Lived experiences of YLHIV in support groups,
2. Experiences of self-discharged YLHIV,
3. Reasons for self-discharge from HIV support groups, and;
4. Factors promoting retention or suitable discharge practices.
Participants reported both positive and negative aspects of YLHIV support groups. Additionally, the Management guidelines for YLHIV in support groups were developed to emphasize a comprehensive, multi-level approach to addressing their physical, psychosocial, and economic needs, with interventions spanning individual to policy levels.
Five guidelines were developed. Guideline (1) holistic approach to support YLHIV, guideline (2) regular evaluation and feedback for resilience improvement, guideline (3) supporting self-discharged, guideline (4) transition of YLHIV in youth Support Groups to adult support groups and guideline (5) introduction of vocational training.
Conclusions: The findings informed the development of management guidelines to enhance YLHIV support, focusing on psychosocial support, stigma reduction, and mechanisms for safe discharge or sustained group membership. Five guidelines were designed to contribute to improved YLHV retention in care, viral load suppression, and overall quality of life.
This study offers insights to policymakers and healthcare providers on strengthening YLHIV support in Eswatini, aligning with sustainable HIV response.

Social and behavioural aspects and approaches to HIV prevention and living with HIV

EP0524

Intimate partner violence among women living with HIV in Hanoi: prevalence, predictors, and pathways

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Background: Intimate partner violence (IPV) adversely affects health and human rights, particularly among women and those living with HIV. Vietnam, with a high prevalence of lifetime gender-based violence (61.9% as of 2019), lacks focused research on IPV among women living with HIV.
This study examines the prevalence of lifetime and prior-year exposure to IPV and its associated factors among women living with HIV in Hanoi.
Methods: A cross-sectional study was conducted in 2024 across six HIV outpatient clinics in Hanoi using the *WHO Multi-Country Study on Women's Health and Domestic Violence against Women* questionnaire. A total of 278 participants were randomly sampled. IPV was assessed through five indicators: physical, sexual, emotional, economic violence, and controlling behavior, and Structural Equation Modeling (SEM) was applied to explore association between IPV and latent variables, including sociocultural factors (gender power, family support), adverse childhood events, and women's and partner characteristics. Data were analyzed using RStudio 2024.09.1 software.

Results: Lifetime and prior-year IPV prevalence were 53.6% and 30.2%, respectively. Emotional violence has the highest factor loading in IPV construct (β=1.11, p<0.001). Women's characteristics (β =-1.22, p<0.001) and family support (β= -0.79, p<0.001) reduced IPV risk, while partner behaviors (β=0.36, p<0.05), including alcohol use (β= 0.22, p<0.01) and intoxication (β= 0.35, p<0.001) using illicit drug (β= 0.33, p<0.01), were associated with higher prior-year IPV risk.

Conclusions: Emotional violence is the most common form of IPV experienced among women living with HIV and attending clinics in Hanoi. Protective factors include women's higher schooling attainment and family support; whereas, partner characteristics including alcohol use/intoxication and using illicit drug are associated with elevated risks of exposure to IPV.

Promising interventions involve enhancing women's empowerment, increasing social support, and addressing harmful partner behaviors to reduce IPV.

EP0525

Using online platforms to reach men who have sex with men (MSM) with HIV and STI services during the Anti-LGBTQ+ Bill Debate in Ghana

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Background: The ongoing debate surrounding the anti-LGBTQ+ bill in Ghana has exacerbated stigma and discrimination against sexual minorities, particularly men-who-have-sex-with-men (MSM). This hostile environment creates significant barriers for MSM in accessing HIV and STI services, as fear of exposure, harassment, and criminalization deter many from seeking care. In response, online platforms have become a vital tool to reach MSM with HIV prevention, testing, and treatment services while maintaining confidentiality and safety.

This study explores how online platforms were used to deliver HIV and STI services to MSM during the anti-LGBTQ+ bill debate in Ghana.

Methods: A mixed-methods approach was utilized, combining quantitative data from service utilization records with qualitative data from interviews with MSM who accessed HIV and STI services through online platforms. From April to September 2024, a digital outreach campaign was launched, using social media, messaging apps, and websites to promote HIV and STI awareness, prevention, and testing services. The campaign included targeted ads, peer-led online support groups, virtual counseling, and referrals to nearby clinics offering confidential care. MSM recruited online were offered flexible appointment times and encouraged to access in-person services at community Drop-In-Centers or the homes of peers at their convenience. Data were collected from 300 MSM participants who engaged with the campaign.

Results: Over six-months, 81% of participants accessed HIV testing via online referrals, with 19% being diagnosed as HIV-positive. Of those diagnosed, 92% initiated ART. Online platforms helped significantly reduce stigma-related barriers, with 85% of participants reporting feeling safe accessing services remotely. The use of online support groups also alleviated feelings of isolation, with many MSM reporting increased confidence in managing their sexual health. Key challenges included limited internet access in rural areas and reaching MSM who were not digitally connected.

Conclusions: Online platforms offer a promising approach to providing HIV and STI services to MSM during heightened stigma, such as the anti-LGBTQ+ bill debate in Ghana. This digital strategy improves access to care, ensuring safer and more confidential interactions. Expanding online interventions can enhance healthcare access for marginalized communities, particularly in areas where stigma is a barrier, making online programming crucial for reaching MSM in remote areas.

EP0526

Drivers of poor antiretroviral therapy (ART) adherence among young people living with HIV in Zambia

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Background: Antiretroviral therapy (ART) has been highly effective in Zambia, significantly reducing HIV-related morbidity and mortality and improving the quality of life for individuals living with HIV. Despite these successes, challenges with ART adherence, particularly among young people, persist and threaten to reverse the progress made in controlling the HIV epidemic.

This study aimed to examine the socio-environmental, structural, psychosocial, and behavioral factors contributing to poor ART adherence among adolescents and young adults living with HIV.

Methods: This qualitative study used Focus Group Discussions (FGDs) with young people living with HIV (YPLHIV) aged 18-24 years at Matero and Kanyama Level 1 Hospitals in Lusaka, Zambia.

Participants were purposively selected to ensure representation of those with experiences of substance use. Six FGDs (three male and three female groups, 6–8 participants each) were conducted using a semi-structured discussion guide. The data were transcribed and analyzed thematically to identify key barriers to ART adherence.

Results: The analysis revealed that substance use, particularly alcohol and marijuana, was a significant barrier to ART adherence. Participants reported that substance use disrupted medication routines, led to forgetfulness, and heightened feelings of denial about their HIV status. Socio-environmental factors, such as stigma, discrimination, and lack of family support, exacerbated these challenges.

Structural barriers, including long distances to healthcare facilities and lack of transportation, disproportionately affected rural youth.

Economic hardships, including insufficient food, and time management issues further hindered adherence. Fear of inadvertently disclosing HIV status was also a concern.

Conclusions: This study highlights the complex barriers to ART adherence faced by young people in Zambia, with substance use being a major contributor. To address these challenges, integrated, youth-focused interventions are necessary. These include community-based ART distribution hubs, peer-driven support programs, and public education to counter misconceptions about HIV and ART. Specific interventions for substance use, such as counseling and community-based programs, are crucial. Expanding access to alternative ART delivery methods, such as injectables, can help ease the daily burden of adherence. The findings emphasize the urgent need for holistic interventions to improve ART adherence and health outcomes for young people living with HIV in Zambia.

EP0527

Introducing HIV self-test to increase index testing uptake in Lao PDR, Jan 2022 – Sept 2024

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Background: Index cases hesitate to accept index testing (IT) services due to confidentiality concerns, stigma and discrimination, and logistical barriers. Lao PDR Ministry of Health recommended the use of an HIV self-test (HIVST) in 2022 as an alternative for testing partners of index cases to improve acceptance of IT services.
Description: Any persons living with HIV (PLHIV) with unsuppressed viral load, reporting a new partner, or interrupting treatment, and any newly diagnosed PLHIV ≥ 15 years seeking HIV services at any of 12 selected sites from January 2022 through September 2024 were offered IT services after providing informed consent.
Under this model, index cases were offered the option to have their partners screened with an HIV test at a health facility or with an HIVST conducted at a location of their preference. Those who accepted the HIVST option were given an oral HIVST (OraQuick®) or blood-based HIVST (iCARE®) for each elicited partner.
HIVST results were reported using a web-based system and all HIVST users were referred for confirmatory testing. The number of partners who reported HIVST use, were referred for confirmatory testing, and were linked to antiretroviral therapy (ART) or pre-exposure prophylaxis (PrEP) was summarized using STATA.
Lessons learned: Of 1,582 partners who received an HIVST, 883 (55.8%) reported using the web-based system. Of those reporting HIVST use, the median age was 28 years (IQR: 24-52 years), 69% (1,096/1,582) were male, 57% (907/1,582) lived in the metropolitan area, and 35% (551/1,582) self-reported as part of key populations. Of 848 partners who reported their HIVST results, 16% (135/848) tested reactive; of these, 96% (129/135) were confirmed positive and 99% (128/129) initiated ART. Of 713 partners who reported a non-reactive result, 52% (373/713) sought confirmatory testing, with 99% (370/373) confirmed as HIV-negative and 16% (50/370) prescribed PrEP.
Conclusions/Next steps: Introducing HIVST was an innovative strategy to encourage index cases to accept IT, facilitate the testing and linkage of undiagnosed PLHIV to ART, and refer high-risk partners to PrEP. Increasing HIVST awareness and promoting the use of the web-based system can enhance our understanding of HIVST uptake and its effectiveness in supporting IT services.

EP0528

Factors influencing the implementation of Undetectable = Untransmittable (U=U) counseling among healthcare providers in Nigeria: a cross-sectional study

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Background: The concept of Undetectable = Untransmittable (U=U) is crucial for reducing HIV-related stigma and improving treatment adherence. Despite its transformative potential, the implementation of U=U counseling by healthcare providers is often inconsistent.
This study assessed the factors influencing U=U counseling and examined healthcare providers' perceptions of its validity.
Methods: A cross-sectional study employing a snowball sampling technique was conducted from November 2024 to January 2025 among 415 healthcare providers in Nigeria, including medical doctors, nurses, and allied health professionals across primary, secondary, and tertiary care settings. Data were collected using structured questionnaires that assessed demographic characteristics, workplace environment, awareness of U=U (HeardUU), knowledge levels, perceived adequacy of training, and opinions on the scientific validity of U=U. Statistical analyses included bivariate chi-square tests and multivariate logistic regression to identify predictors of U=U counseling.
Results: Among participants, 36.1% actively provided U=U counseling. Providers aged 26–30 years were less likely to counsel compared to those aged over 40 (adjusted odds ratio [AOR]: 0.25; 95% confidence interval [CI]: 0.10–0.63). Primary healthcare workers were significantly more likely to engage in counseling than tertiary care providers (AOR: 7.61; 95% CI: 2.45–23.62).

Awareness of U=U (HeardUU) was high, with 73.0% reporting familiarity; those aware of U=U were more likely to provide counseling (AOR: 25.18; 95% CI: 7.38–85.90). Participants with high knowledge were over 37 times more likely to counsel compared to those with no knowledge (AOR: 37.15; 95% CI: 11.56–119.42).

Perceived adequacy of training was the strongest predictor (AOR: 41.64; 95% CI: 17.30–100.23). Regarding U=U's validity, 67.7% of providers agreed it is scientifically valid. Providers who perceived U=U as valid were significantly more likely to provide counseling (AOR: 4.53; 95% CI: 2.35–8.75).

Conclusions: This study highlights the role of training, knowledge, and acceptance of the scientific validity of U=U in improving counseling practices. Although most providers recognize the validity of U=U, there are still gaps in applying this awareness within counseling settings. Establishing regular training programs and fostering institutional support are essential for enhancing the adoption of U=U. These findings carry important implications for reducing stigma, preventing HIV, and enhancing patient care.

EP0529

"It seemed like something I couldn't ask for:" a qualitative analysis of cis- and transgender women's experiences along the PrEP cascade in the South Bronx, New York City

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Background: Cis- and transgender women (C/TGW) in the US remain underserved by HIV pre-exposure prophylaxis (PrEP) initiatives, and most cascades designed to conceptualize and strengthen PrEP use do not capture their experiences.

This qualitative analysis explores the PrEP cascade as experienced by C/TGW who completed a 12-month PrEP study in the South Bronx, New York City.

Methods: We enrolled 40 non-pregnant adults self-identifying as C/TGW who met US PrEP eligibility criteria and reported inconsistent/no previous PrEP use. Participants received daily oral PrEP (TDF/FTC or TAF/FTC) and downloaded a study-specific adherence support smartphone app. Those who completed the 12-month study were invited to complete an in-depth interview (October 2023-August 2024). Recorded and transcribed interviews were analyzed in Dedoose using directed content analysis and a four-stage PrEP cascade assessing awareness of and willingness to use PrEP; access to healthcare; likelihood of receiving a prescription; and PrEP adherence and continuation.

Results: Of the 14 interviewed participants, median age was 29 years; 71% (n=10) identified as cisgender, 29% (n=4) as transgender, 43% (n=6) Hispanic, 36% (n=5) Black, and 29% (n=4) reported prior PrEP experience. Content analysis identified themes within the four PrEP cascade stages (Table).

Although many participants were aware of PrEP, limited representation of women in PrEP messaging and popular discourse impacted knowledge of eligibility and empowerment to request it. Factors associated with adherence included developing medication-taking skills, self-management, and supportive healthcare environments. All trans- and most cisgender women in our sample reported endorsing PrEP use within their social networks.

Stage in PrEP Cascade	Theme	Exemplary Quotes
PrEP Awareness/ willingness	PrEP Awareness	"I'd seen commercials on TV…but I didn't pay no attention to it…I didn't know nothing about PrEP" (cisgender woman)
	HIV risk perception	"Prior to this [study], yes, I did have an awareness of HIV. I was more in fantasy thinking like, 'Oh, it cannot happen to me'" (cisgender woman)
	Barrier: perceived PrEP stigma from partners	"Based on my experience…It can be pretty nerve-wracking to communicate with your partner. There's a lot of stigma when it comes to sex protection" (cisgender woman)
Access to healthcare	Practical barriers: access to health insurance, relationship with provider, transportation	"Just accessing healthcare is a whole other thing for a lotta people. Insurance is hard to obtain, you know, accessing a doctor in your area is hard, transportation to the doctor is hard" (cisgender woman)
Likely to receive a PrEP prescription	Client empowered to ask for PrEP	"I see a lot of commercials about PrEP, and they'll have women in it, but sometimes you're like, 'Well, maybe it's a trans woman. I don't know.' This might just not be a commercial for me" (cisgender woman)
PrEP Adherence/ continuation	Practical skills/ behaviors: Integrating PrEP into daily routines	"I have the pill container … right next to my bed, which I take at the same time every day. It's just something that's become a habit… It's just one extra pill in the pill box" (cisgender woman)
	Individual characteristics: Self-management and care	"I'm protecting myself and knowing my boundaries when it comes to being intimate with other people…Descovy helps with that." (transgender woman)
	Supportive healthcare environment: respectful, reassuring, and accessible care	"They help me learn about HIV…I know that if I have any questions…I can call here and [there is] always somebody to ask. If I have a question, if I have a doubt…[there is] always somebody to guide me" (cisgender woman)
	Social reinforcement: endorsing PrEP use in one's social network	"I'm educating [the young kids]. I'm helping them so that when they grow up, they won't be so scared and so unsure about things like taking PrEP" (transgender woman)

Table. PrEP cascade among C/TGW

Conclusions: This rigorous analysis from a small but diverse cohort of C/TGW enriches understanding of the PrEP cascade in C/TGW, particularly awareness and adherence stages. Both cis- and transgender women identified addressing stigma, increasing awareness, and fostering provider willingness to prescribe PrEP as strategies to strengthen the PrEP cascade for C/TGW.

EP0530

Opportunities and constraints to equitable implementation of the revised infant feeding guidelines for pregnant and lactating persons living with HIV in the United States: a qualitative study

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Background: In 2023-2024, the United States (US) Department of Health and Human Services and the American Academy of Pediatrics issued new pregnancy/lactation guidelines for persons living with HIV (PLWH), expanding infant feeding options to include breast/chestfeeding. Recent evidence highlighting the safety of—and clear preferences for—breast/chestfeeding among PLWH is promising. However, challenges like competing clinical demands and limited resources jeopardize the fair adoption and application of the revised guidelines.

Methods: Between February and October 2024, we conducted semi-structured, in-depth interviews with 15 HIV- and non-HIV-specializing service providers (i.e., physicians, nurses, lactation consultants, dietitians, case managers) and 7 pregnant/lactating PLWH in a US Mid-Atlantic city. Interviews explored perceptions of the revised guidelines, infant feeding preferences and experiences, and anticipated or realized implementation determinants of the updated guidelines.

Using team-based, iterative thematic analysis guided by the Health Equity Implementation Framework, we identified salient facilitators and barriers to equitable implementation of the revised guidelines across heterogeneous clinical and practice contexts.

Results: Providers (60% HIV-specializing) and PLWH (mean age: 33 years, 86% non-Hispanic Black, 86% currently pregnant, 71% nulliparous, 71% expressed breast/chestfeeding intentions) alike embraced the revised infant feeding guidelines—citing expanded autonomy over infant feeding choices, as well as opportunities to de-stigmatize and normalize breast/chestfeeding among PLWH, as key facilitators of guideline adoption. Nevertheless, PLWH and provider narratives illuminated overlapping barriers to implementation and universal adoption of the revised guidelines, including: individual (i.e., breast/chestfeeding reticence given quantifiable but negligible vertical HIV transmission risks), institutional (i.e., inconsistent provider/organizational knowledge, competencies, and/or resources to implement the guidelines with fidelity), and structural (i.e., policy-attributed siloing of antenatal and pediatric healthcare) hurdles.

Conclusions: Across 22 in-depth interviews, participants' enthusiasm towards the revised infant feeding guidelines was tempered by their unaddressed anxieties about vertical HIV transmission and perceived institutional/structural constraints to equitable guideline adoption and implementation.

Person-centered counseling that acknowledges the socio-cultural meanings of breast/chestfeeding; communication that effectively demystifies "negligible" vertical HIV transmission risks associated with breast/chestfeeding; and coordinated, public sector-led dissemination of updated recommendations across disparate healthcare practices are critical to optimizing equity in the rollout of the revised infant feeding guidelines for pregnant and lactating PLWH.

EP0531

The associations between intimate partner violence victimization and HIV PrEP adherence among gay, bisexual men, and other men who have sex with men in Ukraine

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Background: Gay, bisexual, and other men who have sex with men (GBMSM) face elevated risks for HIV, with intimate partner violence (IPV) being a significant factor influencing health outcomes. IPV, encompassing physical, sexual, emotional, and other abuse forms, is linked to mental health challenges and may impact adherence to HIV prevention strategies like pre-exposure prophylaxis (PrEP). In Ukraine, where GBMSM face intersecting stigmas, the relationship between IPV and PrEP adherence remains underexplored. Investigating these dynamics is crucial for developing integrated interventions addressing IPV and promoting effective HIV prevention.

Methods: We conducted an online survey between January and February 2022 among GBMSM in a PrEP program in Ukraine. IPV victimization was assessed using an adapt-

ed IPV-GBM scale, categorizing experiences into different types of (physical, sexual, emotional, monitoring, controlling, and financial) and polyvictimization (>=2 types of IPV). PrEP adherence was self-reported as excellent or suboptimal, with thematic analysis capturing reasons for non-adherence.

Descriptive statistics summarized participant characteristics, and multivariate logistic regressions examined associations between IPV and PrEP adherence, adjusting for sociodemographic and behavioral covariates.

Results: Among 937 current PrEP users, the mean age was 31.0 years, 61.3% had a college degree, and 82.8% identified as gay. Excellent PrEP adherence was reported by only 35.4% of participants. IPV victimization was reported by 39.6% of respondents, with sexual (16.3%), emotional (16.0%), and monitoring IPV (12.6%) being the most common forms.

Polyvictimization was experienced by 19.2%. In multivariate models, experiencing sexual (AOR=1.82, 95%CI: 1.25-2.65), monitoring (AOR=1.83, 95%CI: 1.21-2.78), controlling IPV (AOR=1.92, 95%CI: 1.22-3.02), and polyvictimization (AOR=1.52, 95%CI: 1.06-2.15) were significantly associated with higher odds of reporting excellent PrEP adherence.

The most reported reasons for non-adherence included reduced sexual activity and disruptions caused by the COVID-19 pandemic.

Conclusions: This study underscores significant associations between IPV victimization and PrEP adherence among GBMSM in Ukraine, a population at elevated risk for HIV. These findings suggest that IPV experiences may shape health behaviors, potentially driving adherence to PrEP as a protective measure.

Integrating tailored IPV interventions and support services within PrEP programs is critical to enhancing both IPV prevention and adherence outcomes. Targeted efforts to address COVID-19-related disruptions to PrEP use remain essential.

EP0532

Acceptability of broad neutralising antibodies for post-natal prophylaxis, perceptions from communities in South Africa and Uganda

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Background: Broadly neutralising antibodies (bNAbs) is potentially a safe, affordable and effective biomedical intervention likely to provide several weeks of protection for infants at risk of perinatal HIV acquisition. This study aimed to examine the acceptability of bNAbs for prevention of vertical HIV transmission among mothers from South Africa and Uganda.

Methods: Once-off in-depth interviews were conducted with three cohorts of mothers from two sites in South Africa and one in Uganda between February 2024 and October 2024.

This included:

1. Mothers with infants who participated in trials (n=19), examining the safety and pharmacokinetics of bNAbs in HIV-exposed infants (IMPAACT P1112, PedMAb1),
2. Mothers living with HIV whose infants received standard postnatal prophylaxis (n= 30), and;
3. HIV-free pregnant and lactating mothers (n=30).

We included the perspectives of (n=88) identified key community members using interviews and focus group discussions. Detailed and iterative case descriptions were created after each interview and verbatim quotes were included. Data were coded using the Theoretical Framework of Acceptability (TFA) and compared across participants and sites.

Results: Most mothers reported a positive response in anticipation of implementing long-acting bNAbs for infant postnatal prophylaxis. They cited practical reasons, including convenience, reduced administration burden, and fewer adherence challenges compared to daily medication. Participants noted perceived physical benefits, including lower stress from potential HIV risks, and social benefits, including privacy and protection from inadvertent HIV status disclosure. Mothers whose infants received bNABs attributed their infant's good health to bNAbs.

Although most mothers were keen to access bNAbs for additional infant protection, they highlighted societal barriers that could influence the acceptance of bNAbs including stigma, incurring costs to initiate and maintain

treatment, missing work and health workers' attitudes. While bNAbs were positively received, most participants reported a lack of knowledge on the functioning of bNAbs, including how long bNAbs would provide protection, the dose requirements, potential side effects and possible interference with scheduled vaccines.

Conclusions: Emerging data suggests a preference towards long-acting postnatal prophylaxis, with benefits of long-acting treatment and prevention strategies outweighing the challenges of accessing treatment. Advocacy for bNAbs is needed to address lack of knowledge about bNAbs in communities.

EP0533

The intersectionality of sexual and health stigmatisation for GBQMSM living with HIV/AIDS in Nigeria

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Background: The intersection of HIV status, sexual orientation, and societal biases creates unique vulnerabilities for gay, bisexual, queer men, and men who have sex with men living with HIV/AIDS (GBQMSMLHIV). While policies and legislation exist to protect people living with HIV/AIDS in society, particularly in the workplace, these protections often fail GBQMSMLHIV due to the criminalization of their sexual orientation under the Same-Sex Marriage (Prohibition) Act of 2014 (SSMPA).

This research examines the lived experiences of GBQMSMLHIV, exploring the intersectional impacts of stigma and identifying strategies to foster inclusive workplace environments.

Methods: The study used a qualitative approach, conducting focus group discussions (FGDs) with 45 GBQMSMLHIV participants. Key Informant Interviews with legal practitioners, HR personnel, and advocates provided additional insights. The data gathered were analysed using thematic analysis approach.

Results: Five themes emerged from the thematic analysis:

Request for Medical Testing: The testimonies of GBQMSMLWHIV highlight how these tests are however weaponized to exclude them from employment opportunities, regardless of their qualifications or performance during interviews and other assessments.

Discrimination from colleagues: Discrimination in the workplace took forms like gossip, exclusion, and breaches of privacy which impacted participants professionally, emotionally and psychologically, shaping their overall work experience.

Intersectionality of Discrimination and Stigmatization: The narratives shared provide a lens into how the multiple layers of identity, such as sexual orientation, HIV status, and familial relations intersect, intensifying the stigma and marginalization that GBQMSMLHIV experience.

Impact of Antiretroviral Therapy: Participants shared the physical and psychological effects they experienced when they started taking ARVs and how it affected their productivity especially during the early stages of treatment.

Identified gaps in Legislations and Policies and their Implementations: The low domestication of nationally enacted laws, especially in workplaces and the crippling effect of the SSMPA, which criminalizes same-sex relationships and behavior combined together, creates a chilling effect that prevents GBQMSMLWHIV employees from fully utilizing protections available to the general population living with HIV.

Conclusions: Despite Nigeria's legal protections against HIV-related discrimination, weak enforcement and the SSMPA's criminalization of LGBTQI+ persons leave GBQMSMLHIV vulnerable to workplace exclusion and stigma. Addressing this requires targeted awareness, diversity training, and inclusive environments.

EP0534

Assessing the intersections of stigma, social support, and mental health on treatment adherence and quality of life among people living with HIV (PLHIV) in Ghana

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Background: HIV-related stigma, lack of social support and mental health issues remain barriers to good health among people living with HIV, which adversely affect treatment adherence and quality of life at both societal and individual levels.

This study investigates the intersection between HIV-related stigma, mental health, social support on treatment adherence and quality of life among PLHIV in Ghana.

Methods: A facility-based cross-sectional study was conducted to recruit 1,374 people living with HIV in Greater Accra Regional Hospital and Korle Bu Teaching Hospital in the Greater Accra Region, Ghana from August to November 2024, using systematic sampling technique.

An adapted structured questionnaire was used to collect data on stigma (HIV Stigma Scale), discrimination (Discrimination Scale), mental health (using the PHQ-9 scale for depression and GAD-7 for anxiety), treatment adherence (using the Morisky Medication Adherence Scale), and quality of life (using the WHOQOL-BREF).

Multiple regression analysis was used to identify the predictors of treatment adherence and quality of life at 5% statistical significance level.

Results: The findings of the study revealed that the average age of the respondents was 35.8 ± 13.2 and had been living with HIV for an average years of 11.1 ± 7.6. Quality of life was significantly correlated with social support ($r = 0.506$, $p < 0.001$), HIV stigma ($r = 0.415$, $p < 0.001$) and mental health ($r = 0.227$, $p < 0.001$).

Multiple regression analysis revealed HIV-related stigma (β = 0.027, p = 0.320), mental health (β = 0.027, p = 0.430), or social support (β = 0.019, p = 0.335) have no statistically significant influence on treatment adherence among people living with HIV.

Nonetheless, quality of life among people living with HIV was significantly predicted by HIV-related stigma (β = 0.077, p < 0.001), mental health (β = 0.062, p < 0.001), and social support (β = 0.067, p < 0.001).

Conclusions: From the findings, although HIV-related stigma, mental health, and social support significantly influence quality of life among PLHIV, these factors did not significantly predict treatment adherence in this study. This suggests that quality of life interventions must focus on psychosocial and community support systems

EP0535

Predictors of sexual risk behaviors among HIV-positive adolescents in high-risk areas: a multivariate and logistic regression analysis in Northwest Nigeria

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Background: HIV-positive adolescents residing in high-security risk areas of Kebbi, Sokoto, and Zamfara States, Nigeria, encounter obstacles in managing their sexual health. The prevalent societal stigma, inadequate healthcare services, and limited sexual education amplify their susceptibility to engaging in risky sexual behaviors. It is imperative to comprehend the combined and anticipatory influence of these factors to formulate tailored interventions for this vulnerable demographic.

Methods: This comprehensive study integrated quantitative surveys and qualitative interviews with 60 HIV-positive adolescents recruited from Adolescent and Young People (AYP) support groups across three states. The quantitative data encompassed demographic particulars, healthcare accessibility, condom utilization, and encounters with stigma. Logistic regression was utilized to pinpoint predictors of risky behaviors, while multivariate analysis delved into the complexity of intersecting variables. The qualitative interviews offered nuanced insights into the societal and personal determinants influencing these behaviors.

Results: Logistic regression analysis identified stigma (OR: 2.5, 95% CI: 1.8–3.4), limited healthcare access (OR: 3.2, 95% CI: 2.1–4.8), and coercive relationship dynamics (OR: 1.9, 95% CI: 1.3–2.6) as significant predictors of inconsistent condom use among participants (p < 0.05). Adolescents experiencing higher levels of stigma were 2.5 times more likely to engage in risky sexual behaviors compared to their peers with lower stigma levels. Limited access to youth-friendly healthcare services further increased the odds by 3.2 times.

Multivariate analysis revealed a complex interplay among these predictors, showing how factors like insufficient sexual education (β = 1.4, p < 0.01) and transportation challenges (β = 1.7, p < 0.01) compounded the risks. The model explained 65% of the variance in inconsistent condom use behaviors (R^2 = 0.65), underscoring the multifaceted nature of these determinants.

Qualitative findings added depth to these quantitative results, highlighting how adolescents' apprehension about disclosing their HIV status and power imbalances in relationships influenced their decision-making regarding safe sexual practices.

Conclusions: This research highlights the systemic obstacles contributing to sexual risk behaviors among HIV-positive adolescents in Northwest Nigeria. Stigma, accessibility to healthcare, and dynamics within relationships are crucial factors necessitating targeted interventions, such as mobile clinics, comprehensive sexual education, and programs focused on reducing stigma.

EP0536

Leveraging technology in HIV prevention: the impact of WhatsApp chatbot in enhancing HIV awareness and prevention among Maseno university students

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Background: With the increasing rates of HIV among the adolescent and young population (AYP), there is a need for informative interventions resonating with the lifestyles of this demographic. According to the National Syndemic Diseases Control Council of Kenya, 52% of the new HIV cases in 2023 occurred among the AYP.

This abstract demystifies an intervention that aimed at leveraging the extensive use of WhatsApp among students to deliver HIV prevention information in a familiar and engaging way.

Description: During a 3-day outreach in November 2023 on ending the triple threat in Maseno University, Kenya, a specifically crafted WhatsApp chatbot referred to as "*Ask-Her*," later changed to "*ASKA*" was introduced by Population Service Kenya to spread HIV prevention information among students. *ASKA* offered virtual assistance as a conversational agent by responding to prompt questions and providing information on HIV testing, condom use, safe practices, PEP, PrEP, and stigma and discrimination to the users. University peer educators featured this intervention by mobilizing students to interact with *ASKA*.

Lessons learned: From the *ASKA* server, 13,157 from a total of 20,956 students, interacted with the chatbot by October 2023. The University Aids Control Unit reported an increase in condom use, HIV self-testing and general HIV

knowledge among students. Digital tools proved to be effective in disseminating health information among the AYP.
Furthermore, there was increased engagement due to population-specific interventions that conformed with the communication preferences of the AYP which enhanced confidentiality. Peer-led interventions promoted trust and empowerment among students.
Conclusions/Next steps: The success of the chatbot in revolutionizing HIV awareness in Maseno University underscores the potential of digital tools in delivering health information among the AYP. These outcomes propose a model that can be emulated in other learning institutions and integrated into the broader disease prevention programs for a wider reach.

EP0537

Intimate Partner Violence among HIV positive women on antiretroviral treatment in Kenya: are there protective factors which can mitigate the risk of IPV in HIV positive women?

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Background: IPV and HIV have a deeply intertwined relationship, with each exacerbating the other. IPV not only violates human rights but severely impacts women's physical and mental health, **and in certain regions, raises their risk of contracting HIV**. Women living with HIV face a higher risk of IPV, which complicates disease management and worsens health outcomes.
This study examines the different forms of IPV faced by HIV positive women in Kenya receiving ART at free government clinics and explores whether certain socio-demographic factors and partner characteristics might offer protection against or increase vulnerability to IPV.It also analyses how partner violence drives HIV transmission.
Methods: A secondary analysis of data from a facility-based cross-sectional study of 408 women living with HIV was performed.
A multivariate logistic regression model was used to investigate the relationship between the independent variables and the different forms of IPV.
Results: The overall prevalence of IPV in this study group was alarmingly high (87.9%). Controlling behaviors were identified as the most common type of IPV reported by 65.4% of participants. Physical, emotional, and sexual IPV were reported by 57.1%, 57.6%, and 37.8%, respectively. A significant overlap between various types of IPV was also discovered. 44.9% of participants reported both physical and emotional violence, 44.4% experienced physical IPV in addition to controlling behaviors, 30.6% of women reported both physical and sexual IPV, and 22.8% of the women experienced all four types of IPV.
Polygamy, partner's alcohol consumption, fear of partner, and retaliatory behaviors were all found to be associated with an increased risk of experiencing IPV. Higher income, older age, being in a monogamous relationship, and having a HIV positive partner were each inversely associated with different forms of IPV indicating a potential protective effect. Among the 359 women who experienced any type of IPV in this study, less than half (46.8%) sought help.
Conclusions: To prevent IPV-related HIV transmissions, IPV in Kenya should be effectively addressed. These findings strongly suggest the need for routine screening for all forms of IPV within HIV care to allow for early identification and offer comprehensive support which goes beyond medical treatment.

EP0538

Exploring perceived utility of a clinic-integrated HIV prevention app for men who have sex with men in Malaysia: a qualitative think-aloud study

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Background: HIV remains a global health concern, disproportionately affecting men who have sex with men (MSM), especially in Malaysia. Discrimination, stigma, and other barriers in healthcare settings are common issues for MSM in Malaysia, resulting in sub-optimal HIV testing and linkage to HIV prevention services. Based on our formative work, we created a clinic-integrated HIV prevention app called "JomPrEP" to scale up HIV prevention efforts among this vulnerable group.
This study aimed to explore the perceived utility, appeal, and functionality of the JomPrEP app for MSM in Malaysia to improve access to HIV prevention services.
Methods: We conducted one-on-one qualitative interviews with 10 MSM and 10 community stakeholders (i.e., physicians, administrators, and outreach workers) using the 'think-aloud' (TA) protocol. Participants were recruited from the Greater Kuala Lumpur region between February and April 2022. The TA procedure included 10 problem-solving tasks, followed by a semi-structured interview.
These interviews aimed to delve deeper into the users' feedback on the pre-specified tasks on nine features of the app. The TA sessions were video-recorded and then transcribed verbatim. Theme analysis was used to analyze qualitative data.
Results: Participants from both groups (i.e., MSM and community stakeholders) expressed most of the app features [e.g., app signup page, ordering HIV self-test (HIVST) kits, and pre-exposure prophylaxis (PrEP) medications] as being important and user-friendly.
Incorporating additional features, particularly MedManager (e.g., a feature that sends reminders to users and tracks their medications) and reward systems (i.e., incentives for specific actions such as ordering HIVST or tracking mood), were well-received.

Conversely, participants also suggested (i.e., introducing edit and update options for PrEP and HIVST kit orders and incorporating confirmation messages for clinic appointments) to refine the app further.

Conclusions: JomPrEP was found to be a functional, appealing, and useful platform to scale up HIV prevention services among MSM in Malaysia. Further refinement and pilot testing are needed to assess its impact on HIV prevention efforts for MSM in Malaysia.

EP0539

The acceptability of long-acting injectable antiretroviral therapy in Uganda and South Africa: a qualitative methods sub-study of the IMPALA trial

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Background: Long-acting injectable antiretroviral therapy (ART) is increasingly available in high-income countries and has been found to be highly acceptable in these settings. Long-acting injectable cabotegravir and rilpivirine (CAB+RPV-LAI) may be a particularly attractive option for people with challenges adhering to oral ART. The IMPALA trial is comparing virological outcomes of 8-weekly CAB+RPV-LAI versus oral ART in individuals with a history of adherence challenges in East and Southern Africa. We embedded a qualitative methods sub-study within IMPALA with the aim of describing the acceptability of CAB+RPV-LAI within this population.

Methods: Participants from Uganda and South Africa were purposively recruited, aiming for an equal distribution by site, gender, and treatment allocation. In-depth interviews were conducted with participants on three occasions: after randomisation but before receiving any CAB+RPV-LAI, and at six and twelve months. Interviews were audio recorded, transcribed, translated, and analyzed thematically.

Results: Forty participants were recruited into the qualitative methods sub-study between July 2023 and March 2024: 20 in Uganda, 20 in South Africa; 18 female and 22 male; 22 receiving CAB+RPV-LAI and 18 receiving oral ART. There were high levels of anticipated acceptability by participants randomized to CAB+RPV-LAI.

Individuals randomized to the oral arm were generally disappointed, however some felt that given the investigational nature of the trial they would avoid any potential CAB+RPV-LAI-related side effects. Participants receiving CAB+RPV-LAI appreciated not having to remember to adhere to daily oral ART or carry noisy tablet bottles which could inadvertently reveal their HIV status.

Those on oral ART described repackaging their tablets to avoid this. Most participants receiving CAB+RPV-LAI described a reduction in HIV-related stigma as they could initiate and continue treatment in the privacy of the clinic and did not need to carry or take daily tablets.

Conclusions: Consistent with findings in high income settings, CAB+RPV-LAI was highly acceptable to trial participants with a history of challenges adhering to oral ART in East and Southern Africa.

HIV-related stigma did persist for participants with injectable ART, although for most it reduced. Further research is required to explore the feasibility of implementing this regimen in routine care in sub-Saharan Africa.

EP0540

Resilience, leadership, and crisis competence: lessons from people living with HIV during the COVID-19 pandemic

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Background: While much research has described the COVID-19 pandemic disruptions to HIV care services, the strategies employed by people living with HIV (PLWH) to cope with these challenges remains understudied. Recognizing PLWH's active management of their health, this study examined sources of resilience and crisis competence among PLWH in the USA during the COVID pandemic. Our goal was to inform the design of future care engagement initiatives to strengthen crisis resilience in HIV care.

Methods: We conducted in-depth interviews with 40 participants (22 cisgender men, 10 cisgender women, 8 transgender/gender divers; aged between 23 and 64 years) in New York City during the fall of 2023.

We asked participants about their experiences during the pandemic, coping mechanisms, adaptation strategies to evolving challenges to care engagement, and resources they considered necessary to navigate the healthcare system during the pandemic and beyond.

Results: Proactive resource-seeking and self-advocacy, involving collaboration with multiple stakeholders across social agencies and their personal networks, enabled many participants to effectively manage their care needs and maintain the standard of care they desired.

Participants' prior and ongoing community engagement and leadership roles had fostered resilience, enabling them to navigate social mitigation efforts like lockdowns.

Despite challenges, participants demonstrated competency in managing their own care while also providing support to others in the HIV community.

Additionally, several participants advocated for greater involvement of PLWH in decisions about their health care and the design of healthcare systems overall.
Conclusions: Findings reveal how PLWH leverage the knowledge cultivated through years of managing their HIV to overcome pandemic-related care challenges.
This study further highlights the enduring value of community engagement in fostering crisis resilience. To build a more resilient healthcare delivery system for PLWH, clinical practice should work with community programs and peer-led interventions in a collaborative manner.
Moreover, it is important for PLWH to be acknowledged as leaders within their communities. Future research on HIV care engagement should avoid defining this population solely by their vulnerabilities but recognize their resilience, strengths, and leadership qualities as resources in maintaining engagement in care.

EP0541

Biomedical HIV research participation during pregnancy: perspectives of US adolescents

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Background: Pregnant adolescents face increased risk of HIV acquisition, vertical transmission, and poor pregnancy outcomes, highlighting the urgent need for their inclusion in HIV prevention and treatment studies. To identify factors that may support or hinder pregnant adolescents' inclusion in biomedical HIV research, we examined views of adolescents in the United States related to research rules that may shape their participation.
Methods: In-depth interviews were conducted with ever-pregnant adolescents living with HIV (age 15-24 years old) and at-risk of HIV acquisition (age 15-20 years old) recruited from clinical research settings across the U.S.
The semi-structured interview guide explored adolescents' views on participating in biomedical HIV research during pregnancy with reference to three common rules:
1. Parental and non-gestational parent (NGP) consent,
2. Abuse disclosure, and;
3. Two required forms of contraception.
Interviews were transcribed verbatim and coded using NVivo software by three independent coders. A thematic analysis approach was used to identify emergent themes in the advantages and disadvantages of participation rules.
Results: Forty adolescent interviews were conducted in total, with 20 individuals living with HIV and 20 at-risk of HIV acquisition. Thematic analysis revealed mixed support for the three common rules, with adolescents describing both risks and benefits of each. While participants noted advantages of obtaining parental consent for adolescent research participation during pregnancy, some noted that pregnant individuals under 18 can provide independent consent. For NGP consent requirements, relationship dynamics emerged that could facilitate or hinder participation in HIV research during pregnancy. While most favored disclosure of abuse as a way of providing protection for the adolescent by authorities, some also noted the importance of consulting with the adolescent before reporting.
Finally, support for contraception requirements centered on pregnancy prevention, but participants emphasized that contraceptive uptake should be the adolescent's choice rather than a study participation requirement.
Conclusions: Adolescents identified advantages and disadvantages of common clinical research rules that would impact their decisions to participate in biomedical HIV studies during pregnancy. Mitigating concerns about disadvantages, while leveraging the advantages as facilitators of participation will be important in designing trials that foster respectful inclusion of this population.

EP0542

Enhancing TB preventive treatment uptake among people living with HIV: insights from a qualitative study in South Africa

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Background: Tuberculosis (TB) remains a major global health challenge, particularly for people living with HIV (PLWH). TB preventive treatment (TPT) has been found to reduce the risk of TB among PLWH. As TPT has become a standard component of HIV care, understanding client-level perceptions and knowledge of TB prevention is crucial to optimizing uptake.
Methods: This qualitative sub-study was conducted within a cluster-randomized trial evaluating a TPT initiation strategy in two provinces of South Africa. The qualitative component explored client understanding and experiences with HIV, TB, and TPT through in-depth interviews among PLWH receiving care at participating public-sector healthcare facilities who were purposively selected from North West and Free State provinces of South Africa. Thematic analysis was used to identify themes.
Results: Thirty-three adult PLWH were interviewed. Most participants understood TB and the high risk for household TB transmission, and understood PLWH have increased susceptibility to TB disease. Participants were

clear that TB is curable and they identified its risk and transmission to dirty environments, neglecting symptoms and habits such as alcohol use and smoking. Participants highlighted that a combination of health-seeking behaviors, treatment adherence and community-level TB-related stigma influence the TB burden, stressing that both TB and its treatment are community challenges. Understanding of TPT varied, with most participants emphasizing the need for clients to take initiative in their TPT treatment. Participants requested that healthcare workers provide more details about TPT through counselling, posters and pamphlets in clinics, and suggested community engagement to encourage adherence. Concerns about TPT were expressed, including side effects and the burden of taking both antiretroviral therapy (ART) and TPT treatment.

Conclusions: Individual and community social and health-related factors, along with participants' general acceptability of TPT, might affect its uptake and retention. While TPT was seen as important, concerns about the dual treatment burden highlight the need for improved education and support. Strengthening healthcare communication and community engagement could enhance TPT adherence and reduce TB risk among PLWH.

EP0543

Identifying best practices for offering telephonic adherence support to people diagnosed and on tuberculosis and/or HIV treatment or tuberculosis preventive therapy: a scoping review

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Background: While completing treatment is essential to cure tuberculosis (TB), treatment duration, side effects and structural barriers pose challenges to adherence. COVID-19 made out-of-clinic adherence support options more desirable. Research on telephonic adherence support (TAS) for TB is limited. We conducted a scoping review of TAS outcomes among people on treatment for TB and/or HIV or TB Preventive Therapy (TPT).

Methods: We used Arksey & O'Malley's framework for scoping reviews. Articles were searched on PubMed & Ebscohost databases and by two independent reviewers. Included studies were published in English, from year 2000-present, and considered TAS versus a comparison group. Adherence measurement data and outcomes were extracted and improvements from baseline and/or comparison with comparison groups considered and described.

Results: Eighteen articles were included in analysis: 15 on antiretrovirals, three on TB treatment, and zero on TPT. TAS differed by frequency: daily, weekly, intermittent, or monthly; duration: median=6, range=3-40 months; and comparison group: standard of care (n=16), directly observed therapy (DOT) (n=3), and/or SMS reminders (n=1). TAS improved adherence from baseline in 6/9 studies (mean $^{improve=}$2.2%, range=-26.4-26.5%) and compared to controls in 10/15 studies ($^{meandiff=}$4.6%, range=-5.7-40.2%). In studies measuring clinical outcomes, TAS improved log_{10} VL from baseline in 5/5 studies and outperformed comparators in 3/5 studies (mean $^{VLimprove=}$1.8, range=0.6-3.2; mean $^{VLdiff=}$0.6, range=-0.5-1.7). CD4 counts improved from baseline in 4/4 studies and against comparators in 3/4 studies (mean $^{CD4improve=}$65.2, range=9.1-146.0$^{/mm3;}$ mean $^{CD4diff=}$19.6, range -32.0-75.4$^{/mm3}$).

One study showed a higher, but statistically insignificant, proportion of smear conversion for TAS compared to DOT (17.1% vs 13.1%, p=0.67).

Conclusions: There were few studies on TAS for TB; more for HIV. Overall TAS showed modest improvement, with wide variation between studies. Notably, TAS showed improvement from baseline for all clinical outcomes. Differences in TAS components and study design may explain the wide range in findings.

EP0544

Forgotten in the frontline: highlighting and addressing health staff and their access to HIV services in Zambia

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Background: Health staff are on the frontline of delivering HIV services. Although HIV stigma and discrimination (S&D) reduction tools have been developed for this population, they are not widely used. In 2024, a Total Facility Approach (TFA) S&D intervention was adapted for two hospitals in Zambia, including a new tool developed with health staff to address the HIV S&D they face

Methods: In 2024, a pre-intervention self-administered baseline stigma survey was conducted with all health staff (clinical and non-clinical) at two Zambian hospitals. 801 staff (44% men, 56% women) responded (80% and 78% response rate). The survey included observed, perceived and enacted S&D indicators for negative attitudes to health staff living with HIV, and institutional policy and

work environment items about staff access to services. Qualitative data was obtained from the tool's development workshop.

Results: In the baseline survey, 62% of clinical staff and 45% of non-clinical staff believed healthcare workers are at least a little hesitant to take an HIV test in their own facility; and 26% clinical staff and 15% non-clinical staff were not confident that their test result would be confidential. At the workshop, a nurse stated, "I would never test from our facility because if I test by 9 am, by the afternoon, the entire facility will know about my status". 52% clinical staff and 36% non-clinical staff thought a healthcare worker living with HIV would be hesitant to seek HIV care where they worked. In addition, 69% of clinical staff and 61% of non-clinical staff thought that healthcare workers living with HIV would not disclose their status for fear of losing their job. Health staff described traveling long distances to seek HIV services, incurring financial, time and absence costs. The newly developed tool focuses on 'professional stigma', successful navigation of HIV services and building co-worker encouragement and support. 'I have done many HIV trainings', one nursing officer said of the latter, 'but this one is finally about us!'

Conclusions: Conclusions: In Zambia, health staff face challenges accessing HIV services, particularly in facilities where they work. Similar to the TFA, HIV S&D interventions should address this.

EP0545

Using trained expert client approaches to inform HIV stigma and discrimination reduction interventions in sub-Saharan Africa: multi-country insights

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Background: Participatory approaches that capture lived experiences of marginalized populations affected by HIV across diverse African contexts can be valuable for adjusting and evaluating interventions. We utilized the Trained Expert Client (TEC) approach to assess healthcare provider performance, HIV- related service delivery and HIV stigma and discrimination in six public hospitals across Zambia, Ghana, and Tanzania. Multi-country baseline findings from this approach are informing development of an expanded Total Facility Approach (eTFA) multi-country intervention project.

Methods: At baseline, 82 participants aged ≥15 were purposively recruited through local stakeholders and trained as TECs. TECs were from marginalized groups: adolescents and young adults (AYAs) living with HIV (n=24); AYAs seeking HIV prevention services (n=11); young women accessing reproductive health services (n=12); men who have sex with men (MSM) (n=12); people who use drugs (n=11) and people living with HIV and co-morbidities (n=12).
A half-day participatory training covered ethics, observation techniques, hospital mapping and safety measures. During routine HIV care or identified hospital appointments, TECs discreetly observed HIV-related service delivery focusing on service quality, stigma, discrimination, overall impressions and motivation to return. Within 24 hours of the appointment, social scientists debriefed TECs using an interview guide and hospital maps. Rapidly analysed findings were shared with hospitals as part of the eTFA intervention.

Results: We use a case-study of a 19-year-old AYA TEC in Zambia to illustrate TEC data. Despite being born with HIV, this TEC chose to request HIV testing, having no earlier recollection of this experience. He reported initial disrespect from the healthcare worker, inadequate pre-counselling, failure to wear gloves and a change in tone following disclosure of his status. Multi-country TEC observations highlighted systemic issues: breaches of confidentiality, derogatory language, and excessive phone use. For example, healthcare workers publicly questioned young men about their HIV prevention service-seeking behaviours (Zambia & Ghana), used derogatory language based on perceived femininity of MSM clients (Ghana) and demonstrated lack of empathy when providing HIV test results compared to routine malaria results (Tanzania).

Conclusions: Multi-country findings show that the TEC approach is valuable in identifying barriers and informing HIV stigma and discrimination reduction interventions.

EP0546

Impact of misconceptions on discriminatory attitudes towards people living with HIV/AIDS in Sub-Saharan Africa: evidence from DHS data (2003–2023)

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Background: Stigma and discrimination undermine the health and well-being of people living with HIV/AIDS (PLWHIV), including sub-optimal medication, lower visit adherence, high tendencies to depression, and overall lower quality of life. This study explores the role of witnessing HIV-related stigmatization and the belief in foodborne transmission in shaping discriminatory attitudes among women aged 15–49 years in HIV-endemic Sub-Saharan African (SSA) countries.

Methods: Data were drawn from Demographic and Health Surveys (DHS) conducted between 2003 and 2023 across seven SSA countries with HIV prevalence exceeding 10% (based on 2017 data). Three discriminatory attitude questions were used to obtain the outcome variable (discriminatory attitude towards PLWHIV). Independent variables included in the model are witnessing HIV-related stigma, belief in foodborne transmission and sociodemographic characteristics. Countries without these data were excluded. Descriptive, bivariate, and multivariate analyses were performed using SPSS version 25 to assess the predictors of discriminatory attitudes.

Results: The final sample comprised 57,325 women across seven countries. Discriminatory attitudes towards PLWHIV varied significantly, from 33.7% in Eswatini to 72.4% in Tanzania. Factors such as being young, unmarried, uneducated, living in rural areas, or belonging to the poorest wealth quintile were associated with higher odds of discrimination.

Witnessing HIV-related stigma significantly increased discriminatory attitudes in Uganda (adjusted odds ratio [aOR]: 1.49; 95% CI: 1.34–1.65).

Additionally, belief in foodborne HIV transmission was a strong predictor of discrimination in all seven countries: Zimbabwe (aOR: 3.42, 95%CI:2.92-4.01), Zambia (aOR:3.46, 95%CI: 2.93-4.09), Lesotho (aOR:4.56, 95%CI:3.97-5.24), Eswatini (aOR: 2.82, 95%CI:2.36-3.40), Namibia (aOR: 2.07, 95%CI: 1.80-2.38), Uganda (aOR:3.07, 95%CI:2.63-3.57) and Tanzania (aOR:2.80, 95%CI:2.4-3.27).

Conclusions: This study highlights the influence of stigma and misconceptions on discriminatory attitudes towards PLWHIV in SSA. Witnessing stigmatization and false beliefs about HIV transmission, such as through food, exacerbate discrimination, disproportionately affecting vulnerable populations.

Comprehensive education campaigns addressing these myths, coupled with community-based anti-stigma interventions, are critical to fostering a supportive environment for PLWHIV and improving public health outcomes.

EP0547

Stigma and discrimination towards young men seeking sexual and reproductive health services among health facility staff in Ghana, Tanzania and Zambia

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Background: Young men in sub-Saharan Africa have been consistently under-engaged in HIV services. Although concerns about judgmental providers are a well-established barrier to care, few studies have measured stigma and discrimination (S&D) towards young men among health workers themselves.

In 2024, we assessed S&D towards young men ages 18-24 seeking sexual and reproductive health services (YMSSRH) among health facility staff in Ghana, Tanzania, and Zambia.

Methods: Data were collected through the baseline survey evaluating the Total Facility Approach (TFA), an intervention to reduce HIV-related S&D in health facilities. A total of 2197 clinical and non-clinical staff were recruited from two hospitals each in Zambia (n=801), Ghana (n=796), and Tanzania (n=600).

Participants self-administered a structured questionnaire assessing stigmatizing attitudes, perceived stigma, and observed discrimination towards YMSSRH, and features of the institutional environment influencing S&D. Responses were summarized descriptively and compared using chi-squared tests.

Results: Across countries, only 48-52% of staff thought it was normal for young men to engage in sexual activity, and 28-56% did not think most YMSSRH are responsible and hard working (see Table).

About 20-50% agreed that having sex brings disgrace and shame to a young man and his family and 25-33% agreed that most young men attending the health facility use drugs and alcohol.

Tanzanian staff were significantly more likely than Ghanaian or Zambian staff to hold stigmatizing attitudes, but less likely to have observed discrimination (range:36-45%) or to perceive that their co-workers were hesitant to care for this population (range:14-31%).

Ghanaian respondents were significantly less likely to agree that they would get into trouble if they discriminated against YMSSRH than respondents in Tanzania or Zambia (range:39-77%).

Domain	Item	Ghana (N=796) n (%)	Tanzania (N=600) n (%)	Zambia (N=801) n (%)	p-value
Stigmatizing Attitudes	It is normal for young men to engage in sexual activity (positive attitude)	384 (48)	294 (49)	420 (52)	0.21
	Most young men who come to this health facility are responsible and hard working (positive attitude)	458 (58)	265 (44)	576 (72)	<0.001
	Having sex as a young man brings disgrace and shame to a young man and his family	159 (20)	287 (48)	242 (30)	<0.001
	Most young men who come to this health facility are using drugs and alcohol	198 (25)	200 (33)	220 (27)	0.002
Observed discrimination	Observed co- workers unwilling to provide care, providing poorer quality of care, talking badly about, or disclosing care seeking in the past 6 months	362 (45)	213 (36)	349 (44)	0.001
Perceived stigma	Believes co-workers are hesitant to care for this group	247 (31)	86 (14)	187 (23)	<0.001
Institutional environment	Believes they will get into trouble if they discriminate against this group	307 (39)	373 (62)	619 (77)	<0.001

Conclusions: We found high levels of S&D towards YMSSRH in all three countries, with different manifestations across countries. Tailored interventions to reduce relevant forms of S&D could increase engagement in HIV prevention, testing and treatment among young men, supporting progress towards the UNAIDS targets.

EP0548

Unveiling the presence of stigma and discrimination towards adolescent girls accessing sexual reproductive health services among staff from four hospitals in Zambia and Ghana

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Background: In Sub-Saharan Africa, adolescent girls often face a nexus of stigma and discrimination (S&D) within health facilities, limiting their access to sexual reproductive health services (SRHS), with serious consequences. It is critical to measure the extent of S&D and address its influence on SRHS in health facilities, including family planning and HIV testing, prevention, and treatment.
Methods: In Zambia and Ghana, all health staff (clinical and non-clinical) in a total of four hospitals were recruited for a self-administered survey that collected data on S&D towards adolescent girls aged 15-19 years old seeking SRHS services, including negative attitudes, observed stigma, and the institutional environment. Data was analysed descriptively.
Results: Response rates were 80% in both Zambia (n=801; 469 clinical and 332 non-clinical staff) and Ghana (n=796; 575 clinical and 221 non-clinical).
Negative attitudes towards adolescent girls who are sexually active were widespread: 40% of clinical staff and 61% of non-clinical staff in Zambia and 24% of clinical staff and 38% of non-clinical staff in Ghana agreed that: 'Adolescent girls who are sexually active are promiscuous,' 'Adolescent girls who use modern family planning are promiscuous,' and 'If an adolescent girl is sexually active, she is probably a prostitute.'
Although most hospital staff in both countries were willing to provide SRH services to adolescent girls, many had observed co-workers unwilling to provide this care (Zambia: 23% of clinical staff and 32% of non-clinical staff; Ghana: 56% of the clinical staff and 36% of non- clinical staff).
More staff in Zambia (82% clinical and 70% non-clinical staff) than in Ghana (47% clinical and 56% non-clinical staff) believed that they would get into trouble if they discriminated against adolescent girls who seek SRHS.
About two-thirds (64%) of staff in Zambia and one-half (48%) in Ghana knew of written guidelines in their facility safeguarding adolescent girls from discrimination.
Conclusions: The levels of S&D towards adolescent girls who are sexually active and seeking services were concerning, with consequences for sexual and reproductive health and HIV prevention, diagnosis and treatment. Stigma-reduction interventions need to be tailored for this group to impact broader SRHS and specific HIV outcomes.

EP0549

Optimizing viral load suppression among men with unsuppressed viral load: the menstar coaching model

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Background: In 2023, the HIV treatment cascade in Namibia achieved the 95-95-95 targets, but progress in viral suppression among men aged 24–34 years remained insufficient. To address this gap, the MenStar Coaching Model, adapted from South Africa's Coach Mpilo initiative, was introduced. This peer-support model leverages men living with HIV, stable on antiretroviral therapy (ART), to mentor others with unsuppressed viral loads. At Grootfontein ART Clinic, the model targeted men with viral loads ≥ 1000 copies/mL to improve adherence and achieve viral suppression defined as viral loads <40 copies/mL.
Objectives: To evaluate the impact of the MenStar Coaching Model on viral load suppression among men with high viral loads at Grootfontein ART Clinic over 12 months.
Description: A retrospective cohort design was used to assess the effectiveness of the intervention from September 2023 to September 2024. Fifteen men with viral loads ≥1000 copies/mL were identified and enrolled. A dedicated MenStar coach provided individualized support, focusing

on adherence, behavioural changes, and psychosocial empowerment. Data were collected monthly using facility-based and community-based registers. Outcomes were assessed by comparing viral suppression rates before and after the intervention using McNemar's test, with 95% confidence intervals (CIs) and significance threshold of $p < 0.05$.

Lessons learned: Results: Prior to the intervention, none of the 15 participants had achieved viral suppression. Following the intervention, 9 participants (60%) achieved suppression (target not detected), while 5 continued with high viral loads, and 1 interrupted treatment. The viral suppression rate improved significantly from 0.0% to 60.0% (95% CI: 47.57–86.32, $p = 0.0006$).

Discussion: The MenStar Coaching Model demonstrated substantial potential in improving viral suppression among men with unsuppressed viral loads. Peer-based coaching effectively addressed key barriers to adherence, including stigma, lack of male-cantered services, and psychosocial challenges. However, the remaining 40% with suboptimal outcomes emphasize the need for intensified, individualized interventions.

Conclusions/Next steps: The MenStar Coaching Model is an effective approach to enhancing viral suppression among men with high viral loads. To achieve Namibia's 2030 HIV targets, scaling up this customer-focused, peer-driven model is critical. Future efforts should address unmet needs to maximize adherence and treatment outcomes.

EP0550

The impact of a household intervention on Household HIV competency and ART adherence for people living with HIV in Cape Town, South Africa

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Background: In 2023, an estimated 39.9 million people globally were living with HIV, of whom 7.7 million in South Africa. Among people living with HIV (PLHIV) in South Africa in 2022 (>15 years old), 90% were aware of their status, 91% of those were on antiretroviral therapy (ART), and 94% of those on ART were virally suppressed. ART adherence is crucial for health outcomes of PLHIV, making effective adherence interventions critical. Households, as key micro-social environments, can significantly influence health behaviours, including ART adherence. This study evaluated a household-level intervention to improve ART adherence behaviour in Cape Town, South Africa.

Methods: Baseline data for a cluster-randomized control trial were collected from 316 PLHIV in 12 clinics in sub-districts of Cape Town between May 2021 and May 2022. Endline data were collected between December 2021 and July 2022. Clinics were randomly allocated to control or intervention, stratified by clinic size. Both arms received standard adherence visits from community health workers including a pill-count. The 7-month intervention additionally comprised sessions including around adherence and disclosure planning, healthy household communication, and HIV household competency.

Primary outcomes included 4 adherence measures, secondary outcomes included disclosure, HIV household competency, and stigma. Cluster-level measures were analysed to detect differences at endline between study arms.

Results: There was no evidence of a difference at endline between control and intervention arms for primary ART adherence outcomes. There was evidence at endline that mean scores for HIV household competency were lower in the control group than the intervention group (mean diff: -0.28, t=-2.44, p=0.04) after controlling for baseline scores and socio-demographic characteristics. HIV Household Competency was associated with three measures of ART adherence, including lower scores of poor self-rated adherence (β =-.014, t=-2.51, p=0.013), lower odds of not following ART schedules (aOR 0.98, t=-2.34, p=0.02) and lower odds of not following special instructions, (aOR 0.98, t=-2.38, p=0.018). No differences were observed for other secondary outcomes.

Conclusions: The study indicates that household-based interventions may have an impact on ART adherence by improving HIV household competency. Future interventions and research should include the context of the household when examining ART adherence.

EP0551

Unlocking tomorrow: peer PrEP champions scaling-up HIV oral PrEP uptake among adolescents and young women

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Background: Rwanda's national HIV prevalence is 2.7%. Among women, the prevalence is 3.7% and an estimated 30% of new cases in Rwanda occurs amongst adolescent girls and young women (AGYW) aged 12-24 years. This high acquisition rate calls for targeted preventive strategies.

Since October 2022, Igire Ubaka Ejo (IUE) activity has provided referrals for PrEP to AGYW aged 18-24 who are at substantial risk of HIV acquisition.

However, USAID-IUE noted resistance to use of PrEP by at-risk AGYW for reasons including stigma and misconceptions around use of PrEP.

Description: AEE Rwanda introduced 40 PrEP Champions into USAID-IUE to address barriers to uptake of and adherence to PrEP. As young women already on PrEP, Champions became a bridge between AGYW and health services, capable of dispelling misconceptions around PrEP and helping health care providers understand concerns of AGYW. Together with mentors, champions are trained to do community screening for AGYW who have multiple sexual partners, or practice transactional sex and provides them with weekly social and behavioural change

communication (SBCC) sessions through digital messaging platforms, including WhatsApp deliver age-appropriate PrEP information to targeted AGYW. The project revised an Memorandum of Understanding (MOU) with health centers to formalize their working relationships with Champions.

Since its introduction, the Champions strategy, alongside differentiated services delivery to scale up oral PrEP services such as general PrEP awareness education provided to adolescent girls below age of 18, has enhanced HIV prevention among AGYW.

Lessons learned:

- Engaging AGYW on PrEP willing to be PrEP Champions is highly effective at increasing uptake and adherence to PrEP.
- PrEP Champions contributed to increasing AGYW accessing PrEP services from 547 in 2022 to 1,218 in 2024.
- MOUs with health facilities empowered Peer PrEP Champions to work effectively.

Conclusions/Next steps: PrEP Peer Champions is a model that works to encourage AGYW at substantial risk of HIV to take PrEP. AEE Rwanda expect that the continuation of this approach with lead to enduring and higher rates of PrEP among at-risk AGYW.

EP0552

Prevalence of alcohol and substance use disorders among recipients of HIV care in Zimbabwe

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Background: Unhealthy drinking and substance use among people living with HIV (PLWH) are associated with poor antiretroviral therapy (ART) adherence, increased viral load, and mortality [1,2].

Treatments for alcohol and substance use can be offered in HIV care. However, understanding the local prevalence of alcohol use disorder (AUD) and substance use disorder (SUD) and what substances are used is important for planning services. Little prior research has explored alcohol and substance use in Zimbabwe despite anecdotal reports of increasing use.

Methods: As part of a larger study to validate AUD and SUD screening tools, we conducted a cross-sectional study among recipients of HIV care between November-December 2024 across 6 public health facilities offering ART in Bulawayo city and Gwanda rural districts. Recipients of HIV care aged ≥18 years who attended their scheduled ART refill and/or clinical review visit were randomly selected. Diagnostic assessments for AUD and SUD were conducted verbally using Ndebele-translated versions of the Composite International Diagnostic Interview (CIDI) Substance Abuse Module, which is based on a DSM-5 criteria [3]. AUD and SUD were defined as endorsing ≥2 symptoms regarding alcohol or substance use, respectively, on the CIDI. Participant demographic characteristics were also collected. Unweighted data analysis including the Chi-square test for associations were conducted using Stata Version 17.

Results: Of the, 1,064 study participants, the majority (62%, n=660) were females, and the median age was 44 years (IQR: 36-53). The prevalence of AUD was 19.9% (n=212) with the breakdown of mild, moderate and severe AUD being 8.9% (n=85), 4.4% (n=47) and 6.6% (n=70) respectively. Prevalence of SUD was 2.8% (n=30). Of those with SUD, 63% (19/30) had cannabis use disorder. Men had a higher prevalence of AUD (13.4% vs 4.8%, p<0.01) and SUD (7.3% vs 1.4%, p<0.01).

Conclusions: This large, cross-sectional study used diagnostic interviews administered by clinicians to show that there is a high burden of AUD and to a lesser extent, SUD among people attending ART clinics. Next steps will be integration of routine screening for AUD and SUD into HIV care and linking those who screen positive to treatment. Treatment programs may particularly target men, who are most affected.

EP0553

Tenuous transitions: exploring persistent challenges to retention in care for adolescent and young mothers living with HIV in rural South Africa

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Background: Adolescent mothers living with HIV have poorer treatment adherence and are likelier to experience disruptions in retention in care. However, there has been limited research with adolescent mothers who give birth before age 18—especially those in rural settings—on the barriers and facilitators to their retention in care.

This IAS CIPHER-funded study aimed to explore barriers to retention in HIV care, specifically focusing on social, psychosocial, and relational challenges that young women experience while navigating both HIV and new motherhood in rural South Africa.

Methods: In rural Eastern Cape, South Africa, we recruited adolescent girls and young women living with HIV who had given birth before age 18 (young mothers) between September-December 2024. Participants were recruited with support from our community-based partner, One-to-One Africa. A Xhosa-speaking researcher conducted semi-structured individual interviews, followed up by dyadic interviews with a trusted adult. Young mothers' indi-

vidual interviews included an arts-based activity to map their experiences accessing healthcare at clinics during and following their pregnancies. Data were analyzed using rapid qualitative analysis.

Results: In individual (n=8) and dyadic (n=4) interviews with young mothers and key adults in their lives, participants revealed tensions linked to accepting their statuses and envisioning their futures during the transition to motherhood. Several young mothers described forced or unintended disclosure of their HIV statuses by friends and family members, leading to school withdrawal and heightened isolation.

Significant structural factors, including chronic poverty, food insecurity, and school dropout and expulsion further disadvantaged participants leading up to, and following, pregnancy and birth. The most at-risk young mothers often lacked birth certificates and identity documents, limiting their ability to access government grants.

Instrumental and emotional support received from sisters, mothers, and grandmothers was vital, when available. While accessing healthcare was possible, if time-intensive, for most participants, daily routines to support adherence and general HIV status acceptance varied widely, posing challenges for their ongoing health.

Conclusions: Young rurally-based mothers require tailored psychosocial and practical support to enable them to stay retained in care. Young mothers could further benefit from services that ensure their rights to stay in school, and access government grants, can be fully realized.

EP0554

I am doing it for my child and myself": empowering autonomy and ethical participation of pregnant women living with HIV and their children in clinical research

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Background: During the decision-making process related to enrolling in longitudinal clinical research, the agency of pregnant and post-partum women living with HIV and their children is often overlooked, particularly in patriarchal, communitarian, and resource-limited settings that constrain their autonomy in decision-making. This qualitative study explores the strategies employed by pregnant women living with HIV to navigate these complex socioeconomic and cultural dynamics, assert their independence in decision-making, and examines the broader implications of these strategies for promoting ethical clinical practices.

Methods: Data were collected within a parent research study at Moi Teaching and Referral Hospital in Eldoret using a person-centered approach. The study involved 45 qualitative interviews, comprising 30 pregnant or post-partum women living with HIV and 15 mothers without HIV. Interviews were audio-recorded, transcribed, translated where necessary, and analyzed by a multidisciplinary team using a priori coding, constant comparison, axial coding, and triangulation.

Results: Results demonstrate challenges faced by participants in navigating relational and cultural norms to facilitate their and their children's participation in research. Women without strong social ties to their partners preferred to provide consent independently while married women commonly described discreet decision-making without involving their spouses. Leveraging caregiving roles, women sometimes framed research participation as routine clinic visits to avoid unwanted disclosure of their and their children participation in HIV research. Confidentiality and privacy were identified as key research practices to support the agency of pregnant women and children.

Some participants destroyed consent forms to prevent unwanted disclosure, most expressed a preference for clinical results to be communicated privately and directly to them. Additionally, participants voiced their preferences for home visit protocols, ensuring that their privacy was safeguarded and their unique needs were addressed due to perceptions of high HIV stigma within their communities.

Conclusions: This study demonstrates the ethical duty for clinical HIV research to prioritize women's agency, implement culturally sensitive and confidential consent processes, and address structural barriers such as caregiving inequities. Researchers should consider gender-sensitive approaches, strengthen privacy protections, and involve participants in shaping protocols. Ethical training for researchers is crucial for navigating relational and cultural complexities, ensuring research is inclusive, empowering, and contextually aware.

EP0555

Mbarara University nursing students' association on the frontline in creating HIV vaccine awareness in rural Southwestern Uganda

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Background: Nursing students play a crucial role in prevention and management of Human Immunodeficiency Virus (HIV) despite the increase in prevalence. HIV vaccine is among the current strategies for managing HIV however much its adoption and utilization are still poor.
This project aimed at equipping knowledge and information about HIV vaccine to the youth in Nyakagyeme, Rukungiri district, Southwestern Uganda.
Description: Mbarara University Nursing Students' Association conducted a 3-day community engagement campaign in Nyakagyeme Health Centre III, Rukungiri district, southwestern Uganda. This campaign aimed at addressing misconceptions and addressing knowledge gaps among community members seeking care at the facility. We used a cross-sectional, mixed-methods approach incorporated it with One Health framework.
Lessons learned: This project made a significant improvement in knowledge about availability and benefits of HIV vaccine through sensitization, educating 300 community members (188F, 112M) and 15 healthcare workers (9Nurses, 4midwives and 2 doctors).
The educated members also committed to be champions of promoting HIV vaccine awareness. Qualitative interviews revealed significant misconceptions about the vaccine, gaps in knowledge and information regarding HIV vaccine and readiness of primary healthcare facilities.
In conclusion, this project provided knowledge about HIV vaccine to 300 community members and 15 health care workers who were engaged, and led to the inception of formation of HIV vaccine awareness champions.
Conclusions/Next steps: There is need for scaling up to the entire district, other regions, and the entire country to effectively create awareness about HIV vaccine so that community members are ready to take it up when it is rolled out.
There is need for adequate training to medical and nursing students, and health care workers on proper use of HIV vaccine while caring for clients.

EP0556

Evaluating the uptake and retention on pre-exposure prophylaxis among female sex workers in Rwanda

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Background: Pre-Exposure Prophylaxis (PrEP) is a proven HIV prevention strategy, yet uptake and adherence remain suboptimal among female sex workers (FSWs) in many settings. In Rwanda, where FSWs are at heightened risk of HIV, data on PrEP utilization and barriers to access are scarce.
This study aims to evaluate PrEP awareness, uptake, adherence, and associated factors among FSWs across Rwanda. We hypothesize that regional differences, age, and HIV knowledge significantly affect PrEP uptake and adherence among FSWs in Rwanda.
Methods: A cross-sectional biological and behavioral survey was conducted among FSWs aged 15 years and above using respondent-driven sampling to enroll 2,541 FSWs from May to June 2023 in all provinces and Kigali City. Data on PrEP awareness (ever heard of PrEP), uptake (ever used PrEP), and adherence (daily use) were collected using a structured questionnaire. We also collected data on age, gender, and HIV knowledge to assess demographic differences. Data were analyzed using STATA 17, with regional differences examined and logistic regression analysis identifying factors associated with PrEP uptake and discontinuation. Adjusted odds ratios and 95% confidence intervals were reported.
Results: Among the 2,541 FSWs, 57.4% (1,527) had heard of PrEP, and 39.8% (504) had ever used it, with uptake varying significantly by region: 17.3% in the Eastern Province and 53.3% in the Southern Province ($p<0.001$). However, 84.4% of users adhered to daily PrEp for the first six months, with the highest discontinuation rate in the Eastern Province (51.8%) and the lowest in the Western Province (8.9%).
Key reasons for discontinuation included feeling it was no longer necessary (30.7%), difficulty accessing PrEP (35.6%), and side effects (17.8%). Age and HIV knowledge were significantly associated with PrEP uptake and discontinuation.
Conclusions: These findings underscore the importance of targeted interventions to improve PrEP awareness, accessibility, and adherence among FSWs, particularly focusing on individuals aged 35 and above and enhancing HIV education to reduce discontinuation rates.
Further research on gender-specific interventions is needed to enhance PrEP uptake and adherence.

EP0557

Re-engaging the lost to care: innovative approaches for HIV treatment retention among migratory key populations in fishing communities along Lake Victoria

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Background: Fishing communities along Lake Victoria face unique HIV prevention and treatment challenges, including high mobility, stigma, and limited access to healthcare. Migratory fisherfolk are disproportionately affected by HIV, with frequent interruptions in care leading to poor retention and adverse health outcomes. This project aimed to develop and implement strategies to re-engage individuals lost to follow-up, enhancing treatment retention among these key populations.

Description: From 2022 to 2024, a community-led intervention was implemented across five fishing villages along Lake Victoria in Uganda. The project targeted fisherfolk, including men, women, and adolescents, who had disengaged from antiretroviral therapy (ART). Key activities included:

1. Establishing mobile health clinics to provide decentralized ART services.
2. Training community health workers (CHWs) to act as treatment navigators.
3. Leveraging digital health tools, such as SMS reminders and geolocation, to track and re-engage clients.
4. Creating peer support groups to address stigma and provide psychosocial support.
5. Collaborating with local leaders to foster community ownership and reduce barriers to care.

Lessons learned: The intervention successfully re-engaged 72% of individuals lost to care (n=1,030). Mobile clinics increased ART accessibility, reducing transportation-related barriers.

CHWs were pivotal in identifying and supporting migratory clients, with 85% reporting improved trust in the healthcare system. SMS reminders facilitated timely ART refills, particularly for younger clients. Peer groups enhanced adherence, with participants reporting reduced stigma and a greater sense of belonging.

However, challenges included limited resources to scale interventions and addressing structural issues such as poverty and food insecurity.

Conclusions/Next steps: This project highlights the importance of tailored, community-driven approaches to improve HIV care retention among migratory populations. The integration of mobile health clinics, digital tools, and peer support is both scalable and replicable in similar settings.

Future efforts should focus on sustainable funding, addressing structural barriers, and expanding the intervention to other high-mobility key populations across Uganda and the East African region.

EP0558

Factors associated with anxiety among adolescents and young adults living with HIV in Rwanda: a cross-sectional study

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Background: Anxiety disorders are the most prevalent mental health conditions among adolescents globally, with 4.4% of 10–14-year-olds and 5.5% of 15–19-year-olds affected. For adolescents and young adults living with HIV (AYALWH), the challenges of managing a chronic illness alongside developmental changes can exacerbate anxiety symptoms. Untreated anxiety disorders have significant consequences including poor ART adherence, increased HIV transmission risk, lower quality of life and engagement in education and employment.

Given the high burden of anxiety among AYALWH and its potential impact on HIV management, this study aims to assess socio-demographic, clinical, and psychosocial characteristics associated with anxiety among AYALWH in Rwanda to inform targeted interventions and improve mental health outcomes for this vulnerable group.

Methods: This cross-sectional study was conducted between January and June 2024 at health facilities in Kigali and the secondary cities of Musanze, Muhanga, Rubavu and Nyagatare districts. A random sample of 457 AYALWH aged 10-24 years was recruited during their routine HIV clinic visits. Participants completed a structured questionnaire that included validated scales to measure anxiety (GAD-7) and depression (PHQ-9), as well as items on socio-demographic characteristics, HIV-related factors, and psychosocial experiences. Multivariate logistic regression was used to identify factors associated with anxiety and depression.

Results: Among the 457 participants, 41.5% reported experiencing anxiety at varying levels. Participants who had only completed primary education were 3.61 times more likely to experience anxiety (OR = 3.61, [1.092, 11.914] 95% CI) compared to those less than primary.

Additionally, those who experienced forced sex were 2.03 times more likely to experience anxiety (OR = 2.03, [1.013, 4.052] 95% CI) compared to those who did not experience forced sex. Individuals who experienced bullying were 3.32 times more likely to experience anxiety (OR = 3.32, [1.676, 6.595] 95% CI) compared to those who did not.

Conclusions: This study highlights the high prevalence of anxiety among AYALWH in urban and peri-urban Rwanda, highlighting the urgent need for integrating routine mental health screening and targeted interventions into HIV care services.

The findings call for policy changes to prioritize mental health as a key component of comprehensive HIV care, particularly for AYALWH.

EP0559

Consistent use of bi-weekly data quality assessments in achieving and sustaining high rates of pediatric HIV disclosure in Rundu State Hospital, Namibia

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Background: Paediatric HIV disclosure is a critical component of effective antiretroviral therapy (ART) management. In Namibia, pediatric HIV clients are enrolled in the pediatric HIV disclosure program between 5-8 years of age and full disclosure should occur between 9-14 years of age.
However, full disclosure rates fall well below the 95% national target.
We implemented a quality improvement (QI) initiative at Rundu Hospital, Namibia, focused on improving and sustaining enrolment and full disclosure rates.
Methods: From October 2020 through September 2021, a QI team employed Plan-Do-Study-Act cycles to test change ideas including bi-weekly client record data quality assurance (DQA) to identify and rectify documentation issues, healthcare worker (HCW) refresher training on disclosure guidelines, delegating a dedicated data clerk to capture disclosure data, dedicated weekly schedules to deliver disclosure activities, contacting caregivers to ensure involvement, disclosure information booklets for home-based education by caregivers, and stickers on client records to remind clinicians when clients turn five and nine years.
Routine data from client records and the disclosure register were used to measure the proportion of disclosure enrolment and full disclosure among pediatric clients aged 5-8 and 9-14 years, respectively.
Descriptive analysis was used to describe enrollment and full disclosure rates monthly across the 12-month project and bi-monthly for 36 months following. QI reports were reviewed to identify key initiatives contributing to improvements.
Results: Over 12-months, enrolment rates among pediatric clients aged 5-8 years increased from 40% (29/73) to 93% (62/67), while full disclosure rates among 9–14-year-olds improved from 57% (112/198) to 93% (168/181).
For 36 months following, enrolment was sustained above 92% and full disclosure above 90%. Enrolment and full disclosure reached 95% in 9 and 11 of the 16 bi-monthly measurement periods, respectively.
Bi-weekly DQA and reminder stickers in client records for clients turning five and nine years were identified as key to achieving and sustaining high rates of enrolment and full disclosure.
Conclusions: A DQA-driven approach led to substantial improvements in both disclosure program enrolment and full disclosure. These findings suggest structured and sustained QI initiatives may enhance healthcare outcomes for pediatric HIV clients.

EP0560

Enhancing antiretroviral therapy (ART) adherence and viral load suppression through comprehensive case management approach

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Background: The Orphans and Vulnerable Children (OVC) Case Management, as implemented by USAID/Igire Wiyubake, refers to the process of managing the care plan of a household including planning, implementation, monitoring and evaluation. It serves to strengthen the resilience of vulnerable families and children living with HIV and AIDS through Case Management Volunteers (CMVs) that focuses on delivering timely, individualized, and family-centered services and aim to meet health, economic, protection, education, and social service needs of OVC.
Description: Since 2022, YWCA Rwanda has implemented the approach in Kicukiro District at grassroots by volunteers, formally known as CMVs and support 5 to 12 households each, with an average frequency of two visits per month. Visits target program participants such as children and adolescents living with HIV (C/ALHIV) newly enrolled on treatment, not stable on treatment, or not virally suppressed.
The CMVs undertake various activities including Risk Vulnerability Assessments (RVA), developing personalized care plans, providing direct services or referrals, monitoring progress, and facilitating participant's graduation upon successful case plan achievement.
Lessons learned: The Case Management Approach has effectively enhanced antiretroviral therapy (ART) adherence, retention, and viral load suppression among OVC. In 2023, the program enrolled 1,211 with the VL suppression rate of 96.3%. In 2024, the suppression increased to 99.5% for 1,367 participants. Intensive follow-ups for unsuppressed individuals yielded significant success, with 93.2% (41 out of 44 cases) in 2023 and 89.5% (17 out of 19 cases) in 2024. These outcomes underscore the effectiveness of personalized, home-based strategies in overcoming barriers and improving the well-being of OVC.
Conclusions/Next steps: This holistic approach has proven highly effective in enhancing ART adherence, retention, and viral load suppression among OVC with tailored care plans, and complements national interventions by addressing gaps and meeting the unique needs of each family. The model has led to significant health improvements for OVC, highlighting the need for replication in other districts.

EP0561

Attracting and retaining clients in prevention programs through friendly communication, accessible language, and materials developed by LGBTQI+ individuals

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Background: LGBTQI+ individuals in Kazakhstan face entrenched stigma, discrimination, and systemic barriers to healthcare. While same-sex relationships are not criminalized, the partial approval of a 2024 petition to ban "LGBTQI+ propaganda" has further constrained the delivery of inclusive health services, particularly for Kazakh-speaking LGBTQI+ persons. Tailored HIV prevention messaging remains limited, and organizations working in this area often encounter legal, financial, and social challenges.

Description: From 2018 to 2025, our team implemented a series of community-based HIV prevention initiatives targeting key LGBTQI+ populations. These included AmanBol (HIV self-testing among MSM and transgender persons), AmanBol PrEP (PrEP awareness), JasSpark (youth-focused HIV testing using crowdsourcing), and ORLEU (intersectional stigma reduction among women who use drugs).

A central innovation across these programs was the development and implementation of a Tone of Voice (ToV)—a communication approach characterized by affirming, community-centered, and accessible language. Drawing on principles from social marketing and inclusive design, the ToV aimed to build trust and reduce communication barriers by avoiding medical jargon, minimizing gendered language, and using culturally resonant messaging.

Materials were co-developed with LGBTQI+ community members who are fluent in Kazakh and Russian, ensuring linguistic inclusivity and local relevance.

This communication strategy contributed to increased uptake and retention in HIV prevention services, particularly among transgender, non-binary, and Kazakh-speaking clients.

While detailed outcomes vary across initiatives, results from these projects have been documented and published by co-authors of this abstract in high-impact, peer-reviewed journals.

Lessons learned:

- A consistent and inclusive ToV enhances engagement, retention, and trust among LGBTQI+ communities.
- Co-creation of content with LGBTQI+ individuals is essential for cultural and linguistic appropriateness.
- Providing materials in both Russian and Kazakh using plain, affirming language improves accessibility.
- Avoiding gendered and clinical terminology increases comfort, especially for transgender and non-binary clients.
- Community-led communication strategies are feasible, effective, and scalable—even in politically restrictive environments.

Conclusions/Next steps: The use of an inclusive, community-informed ToV represents a promising and low-cost strategy to improve the effectiveness of HIV prevention among marginalized LGBTQI+ populations. This approach is adaptable across contexts and may be valuable for both civil society and public health systems seeking to expand equitable access to HIV services.

EP0562

From awareness to action: unlocking demand creation for Pre-Exposure Prophylaxis (PrEP)

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Background: HIV prevalence in Rwanda is 3.0% among individuals aged 15–64, with adolescent girls and young women (AGYW) aged 14-24 disproportionately acquired HIV at 1.2% compared to 0.5% males with same age. HIV incidence in the country is still high at 0,08% (5,400 new cases per year), with 35 percent of new acquisitions coming from adolescents (RPHIA 2018-19).

To address this, Rwanda's Ministry of Health with PEPFAR support, introduced oral pre-exposure prophylaxis (PrEP) in 2018 for high-risk individuals aged 18+, prioritizing AGYW starting in 2021 to provide an additional prevention intervention to complement existing interventions like condoms. The USAID/Igire-Wiyubake Activity, implemented by Young Women's Christian Association, expanded PrEP access to 1,553 AGYW in Kicukiro, one of the high HIV prevalence districts, targeting AGYW at substantial risk of HIV, to increase awareness, uptake, and adherence to PrEP while reducing HIV incidence.

Description: The undertaken activities include AGYW sensitization and education aimed at creating awareness and demand for PrEP, delivered by program mentors through AGYW platforms formally known as DREAMS safe spaces. Mentors conduct screening to assess AGYW eligibility for PrEP, refer and link eligible AGYW to health facilities for initiation and assist in scheduling appointments and accompaniment to health facilities to access PrEP.

Lessons learned:

- By 2024, PrEP was provided to 1553 AGYW, with no new HIV case reported among PrEP users, demonstrating the program's effectiveness in PrEP demand and reducing HIV risk.
- Continuous community education and sensitization were essential to address cultural beliefs and misconceptions around PrEP.
- Trained mentors are vital in raising PrEP awareness, linking with health facilities, and ensuring high PrEP service uptake.

Conclusions/Next steps: When used correctly and consistently, PrEP shows promise in reducing HIV transmission among AGYW. To maximize its impact, efforts must focus on scaling up access to PrEP services in undeserved areas, strengthening community structures such as peer mentorship group and safe spaces to empower AGYW in making informed decisions and reduce HIV acquisition.

EP0563

Recommendations to improve caregivers' experiences of disclosing HIV status to children living with HIV in uMzinyathi District, KwaZulu-Natal, South Africa: insights from in-depth semi-structured interviews

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Background: Caregivers of children living with HIV are confronted with a diverse array of challenges associated with paediatric HIV disclosure. Non-disclosure contributes to poor adherence and poor viral suppression due to children's refusal to take treatment.
A study aimed at producing new knowledge on caregivers' experiences (successes and challenges) to share best practices and improve disclosure techniques was conducted.
Methods: An interpretivist, exploratory qualitative study was conducted at four public health clinics in uMzinyathi District, South Africa, between December 2023 and January 2024 using recorded in-depth, in person, semi-structured interviews to collect data from 20 caregivers of CLHIV who were between the ages of 6 and 12 years. The recorded and transcribed interviews were manually transcribed and thematically analysed.
Results: Majority of the participants (15) of this study had disclosed to their children and they have provided the following recommendations to assist others.
They indicated that:
1. They require the support of healthcare workers (HCW) to disclose as caregivers assume that HCWs are well trained in disclosing diagnosis and providing counselling and would perform a better task than them,
2. Caregivers need to be capacitated with disclosure skills and knowledge and prepared in advance for the disclosure process,
3. Full disclosure of child's HIV status should be done at the age of 10 with HCWs providing support during the process,
4. Caregivers should be provided with materials and tools entailing step-by-step guide to facilitate disclosure, and;
5. That HCWs should establish and facilitate caregiver support groups so they can have a safe space for learning and sharing experiences and challenges associated with disclosure.
Conclusions: Caregivers and healthcare workers including social workers play a pivotal role in ensuring that HIV disclosure process occurs to prevent negative consequences that may result from delayed and accidental disclosure and from not disclosing to a child.
Preparation and education can play a huge role in empowering caregivers with appropriate knowledge and skills to lead a successful health-promoting disclosure. The support of HCWs is essential in preparing caregivers for disclosure and during the disclosure process.

EP0564

The community treatment observatory: pilot phase in Western Jamaica

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Background: The study, a community-led initiative, aimed to assess the main clinical, structural and social factors impacting retention in care of PLHIV in the Western Region of Jamaica, to identify areas for improvement towards ending AIDS as a public health concern by 2030.
Methods: The Community Treatment Observatory (CTO) utilised a mixed methods approach through 158 recipients of care questionnaires, 2 surveys with 6 healthcare workers, and 17 focus groups between September and December 2022 in six treatment sites in the Western region. Participants were recruited using a random purposive sampling of clinic attendees each day, mindful of gender balance.
The quantitative data were captured and entered into an electronic database (Dropbox Paper) and analysed using Excel. Focus group data were analysed after identifying key themes to corroborate the quantitative findings.
Results: As of October 2022, 3,839 PLHIV were registered across 6 healthcare facilities. Among PLHIV on antiretroviral therapy (ART) for 12 months or more, 93% had undergone viral load testing. However, 43% of surveyed PLHIV did not receive the test results within six months. Overall, 70% of PLHIV linked to care were virally suppressed.
The study revealed that men aged 25-34 had the highest rate of lost-to-follow-up, while women aged 18-24 had the lowest rate of viral suppression. Retention in care was negatively impacted by long waiting times and challenges related to employment and medical appointments, with 29% of participants missing appointments due to work obligations.
Conclusions: The pilot highlighted that targeted interventions are needed to address the vulnerabilities of specific age, gender, and key population groups across the treatment cascade. Efforts to reduce waiting times and improve appointment scheduling flexibility may also improve retention in care.
Importantly, respondents reported generally positive experiences with confidentiality, stigma, discrimination, and service availability across all six healthcare facilities.
Acting as a baseline, the findings of the CTO will be utilised in 2025 to widen reach across a further 16 sites on the island.

EP0565

Social vulnerability and psychosocial factors associated with antiretroviral adherence among sexual and gender minorities living with HIV in Brazil, Mexico and Peru

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Background: Between 2010-2023, Latin America (LA) had a 9% rise in new persons acquiring HIV and a moderate reduction in HIV-related deaths (-38%), especially among sexual and gender minorities (SGM). Social vulnerability and psychosocial challenges often hinder antiretroviral adherence (ARV-Ad). We aimed to identify social and psychosocial factors associated with low ARV-Ad among SGM living with HIV in LA.

Methods: We conducted a web-based survey in Brazil, Mexico, and Peru from August to November 2024. Participants were ≥18 years old and self-reported living with HIV. We collected data on socio-demographics, time living with HIV, sexual behavior, and substance use, along with scales for depression (PHQ-9), mental health well-being (SF-36), homonegativity (Reactions to Homosexuality Scale), and HIV knowledge (HIV/AIDS Knowledge Assessment Tool). We included participants who reported taking ARV and defined optimal adherence as reporting ≥95% ARV-Ad in the last 30 days using a visual analog scale. We conducted multivariate logistic regression with the forward conditional method, keeping all significant variables ($p \leq 0.05$) in the final model.

	aOR* (95% CI) (n= 2552)	p-value
Country (ref. Brazil)		
Mexico	4.58 (3.49,6.01)	<0.001
Peru	1.10 (0.72,1.66)	0.668
Ethnicity (ref. White)		
Mixed	0.91 (0.71,1.16)	0.445
Afro-descendant	1.44 (0.99,2.09)	0.058
Other	0.79 (0.50,1.27)	0.340
Income (ref. >6 MW)		
None to <1 MW	2.06 (1.45,2.93)	<0.001
>1 to 2 MW	1.34 (0.94,1.91)	0.104
>2 to 6 MW	1.16 (0.86,1.56)	0.338
Transactional sex (yes vs. no)+	1.51 (1.11,2.04)	0.008
Stimulant use (yes vs. no)+	1.98 (1.48,2.64)	<0.001
Opioids use (yes vs. no)+	2.77 (1.08,7.10)	0.034
Depression (yes vs. no)	1.32 (1.07,1.63)	0.010
HIV knowledge (score)	0.85 (0.78,0.93)	0.001

Table 1. Social and Psychosocial Factors associated with Low Antiretroviral Adherence among Sexual and Gender Minorities living with HIV in Brazil, Mexico, and Peru.
**Adjusted for age, gender, and education; +In the last 6 months. CI: Confidence interval; MW: minimum wage; bold indicates p-value ≤0.05.*

Results: We had 2552 participants (Brazil: 66%, Mexico: 24.8, Peru: 9.2%); 95.1% were cisgender men, with a mean age of 42.3 (S.D. 10.1), and 80.5% had more than secondary education. Most (78.3%) reported optimal ARV-Ad. Being from Mexico, having no or low income, having recent transactional sex, stimulant and opioid drugs use, and having a positive screening for depression increased the odds of low ARV-Ad. Conversely, a higher HIV knowledge score decreased the odds of low ARV-Ad (Table 1).

Conclusions: Social vulnerability and psychosocial adversities continue to impact ARV adherence among SGM living with HIV in LA. The HIV response in the region still requires a more comprehensive approach to enhance ARV adherence for those particularly vulnerable.

EP0566

Examining the role of violence on PrEP use among Indigenous gay and bisexual men in Guatemala

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Background: Guatemalan Indigenous gay and bisexual men (GBM) experience high rates of violence due to their intersectional identity. Indigenous GBM experience physical, sexual, and institutional violence based on their sexual orientation (SO), and lasting impacts from the Internal Armed Conflict in Guatemala, which ended in 1996 and took the lives of more than 200,000 Guatemalans, mostly Indigenous.

We sought to assess the relationship between different forms of violence and PrEP use among Indigenous GBM in Guatemala to inform PrEP programming.

Methods: From June 2023 to March 2024, we administered a cross-sectional questionnaire with Indigenous GBM (n=395) in collaboration with two community-based organizations. We report the prevalence of different forms of violence (physical, sexual, and police violence due to SO; knowing someone injured, missing, or killed in the Internal Armed Conflict; forced migration during the Internal Armed Conflict) and PrEP use.

We examined the relationship between violence and PrEP use using logistic regression, controlling for age, education, Indigenous group, and department of residence.

Results: We found a high prevalence of violence due to SO: 41.9% of participants experienced physical violence, 37.2% experienced sexual violence, and 35.7% experienced police violence. 33.7% experienced forced migration from the Internal Armed Conflict and 41.3% had close friends or family who were missing, injured or killed in the conflict. In multivariate analysis, we found that participants who experienced police violence were twice as likely to take PrEP (aOR: 2.12, 95% CI: 1.26, 3.61, p=0.005), as were participants who had family or friends who were missing, injured, or killed in the conflict (aOR: 1.80, 95% CI: 1.05, 3.12, p=0.03).

Participants who forcibly migrated during the conflict were twice as likely to be currently using PrEP (aOR: 1.98, 95% CI: 1.08, 3.65, p=0.03). Physical or sexual violence due to SO was not significantly associated with PrEP use.
Conclusions: Indigenous Guatemalan GBM experience a high burden of violence which may affect their engagement with HIV prevention services, including PrEP.
Future research should explore how violence victimization affects perceived vulnerability to HIV, which may explain why Indigenous GBM who had experienced some violence were more likely to use PrEP.

EP0567

Best practice for reaching men and women with HIV testing through a faith-based initiative "Tuimbe Salama Campaign," in selected facilities at Kilolo district, Iringa region

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Background: Tanzania's HIV prevalence of 4.4% affects 1.8 million people. In Kilolo district, Iringa region, the uptake of HIV services among men and women in religious settings remains critically low due to entrenched cultural and religious norms and stigma. Many refuse to believe they are at risk, citing their religious lifestyles or perceived moral behavior. Additionally, HIV is often viewed as a punishment for sinful acts, causing fear of rejection by religious peers or leaders. Others worry about losing their roles in churches if diagnosed. These factors significantly hinder access to essential health services.
Description: The USAID Afya Yangu project launched the "Tuimbe Salama" campaign, integrating health and religious activities to address the fear and stigma of HIV testing. Faith-based organizations, trusted within communities, are uniquely positioned to reduce stigma and influence health behaviors (Schoepf, 2020).
The campaign leverages this trust by delivering health education through religious leaders during choir rehearsals and gatherings. Choir activities foster emotional connections and group cohesion, creating a supportive space for addressing sensitive topics like HIV and TB testing. Research shows group singing improves psychological well-being and strengthens social bonds (Clift et al., 2010).
This supportive environment helps normalize testing by reducing intimidation and stigma. Health messages framed within cultural or spiritual narratives resonate deeply, inspiring behavior change (UNAIDS, 2021).
By embedding health education into familiar settings, the campaign promotes open dialogue, debunks myths, and shares success stories of HIV-tested individuals. This approach builds trust in health services and empowers communities to advocate for testing, amplifying its impact.
Lessons learned: The campaign's impact is evident in the data. In FY24 Q3 and Q4, HIV testing increased from 566 tests in Q1-Q2 (with 10 positives) to 639 tests (with 21 positives). Of these, 289 tests and 7 positive cases were directly linked to the "Tuimbe Salama" activities. Training 15 religious leaders and linking them with health facilities proved effective in fostering trust and sustainability.
Conclusions/Next steps: The "Tuimbe Salama" campaign showcases how integrating faith, culture, and health enhances HIV services in underserved areas. Its scalable model fosters trust, reduces stigma, and ensures sustained HIV and TB service uptake through faith-based collaboration.

EP0568

Breaking barriers: perceptions of preexposure prophylaxis among cisgender Black women in New York

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Background: Black women represent over 50% of new HIV cases among women, yet they account for approximately 25% of women on PrEP in New York State (NYS). We examined the perceptions of cisgender Black women (CBW) regarding PrEP, focusing on the barriers they face and strategies to improve PrEP uptake.
Methods: The eligibility criteria for participating in this qualitative study included being age 18-54 years, self-reported condomless anal or vaginal sex within the past 6 months, living in New York State, and not taking PrEP. We conducted in-depth interviews with 25 CBW from August 2024 to January 2025. Participants were asked to complete a 30-minute survey via REDCap.
Thematic analysis was used to analyze the qualitative data. Here we present the preliminary findings from the surveys and 15 coded transcripts from the in-depth interviews.
Results: Of the 25 CBW (mean age 32.3 ± 10 years), 92% had health insurance and 24% were married or lived with a partner, 68% were tested for HIV in the past 12 months, and 60% rated their risk for HIV acquisition as low/very low. Primary care providers and OBGYNs were preferred sites for HIV testing sites; however, only 28.6% learned about PrEP from their health care providers. Key barriers to PrEP uptake include:
1. Cultural-familial beliefs and practices that discourage discussions about sex;
2. Fragmentation within the Black community, including the shift of some factors that were once protective into harmful ones;
3. Concerns about side-effects, accessibility and affordability; and
4. The lack of representation of cisgender Black women in PrEP promotional campaigns.
Strategies for promoting PrEP include offering clear information on the advantages and disadvantages of each PrEP option to support decision-making; sharing testimo-

nials from CBW who are currently using PrEP; incorporating sexual wellness into routine primary care and OBGYN visits; and engaging the faith-based community in HIV prevention/PrEP promotion efforts.

Conclusions: Routinizing sexual wellness in primary care and OBGYN visits may be central for increasing PrEP uptake among CBW.

EP0569

Impact of DREAMS initiatives on PrEP uptake and adherence among adolescent girls and young women in Iringa region, Tanzania

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Background: USAID Afya Yangu (My Health) Southern Project experienced a low uptake of PrEP services among AGYW aged 15 - 24. Over two years (FY21 & FY22), the Project provided new PrEP services to 325(8%) AGYW out of 3,984 and PrEP refills to 195 out of 325 AGYW in Iringa MC and Mufindi DC in the Iringa region. The low uptake was linked to limited awareness of PrEP services, perceived stigma, long distances to healthcare facilities, and the absence of youth-friendly services.

In response, PEPFAR is committing substantial resources to the DREAMS initiative (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe).

This initiative offers a comprehensive, evidence-based, age-appropriate package of biomedical, behavioral, and structural interventions aimed at addressing HIV risk factors and reducing HIV rates among AGYW.

The purpose of this study is to evaluate the impact of the DREAMS intervention on PrEP service access in Iringa MC and Mufindi DC before and after the intervention.

Methods: In FY23 Q1, the USAID Afya Yangu (My Health) Southern Project began implementing the DREAMS facility intervention, supporting 25 health facilities—9 in Iringa MC, and 16 in Mufindi DC. The support involved training healthcare workers and AGYW peer champions providing youth-friendly HIV services in line with national youth-friendly service standards.

The peer champions conduct Social and Behavior Change sessions through the "SITETEREKI" (Unshakable) small group and one-on-one approaches and facilitate linkages to youth HIV services (including HIV testing, PrEP, family planning, and GBV support) at the youth corners.

Results: The number of AGYW initiated on PrEP services grew five-fold, rising from 325 in FY21 & FY22 to 1,670(64%) out of 2,600 in FY23 & FY24. Additionally, there was an increase in the number of AGYW retained in PrEP services (PrEP CT), which went up from 195 (60%) to 1,180 (71%).

Conclusions: DREAMS intervention has successfully improved the uptake of PrEP services among AGYW through the establishment of adolescent-friendly conners in DREAMS sites and the effective use of AGYW peer champions to increase demand and strengthen linkage for HIV services. With the good results, the DREAMS initiative is commended for improving the uptake of PrEP services among AGYW.

EP0570

Intersections of violence and vulnerability: insights on GBV and HIV among women engaging in sex work in Zambia

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Background: Women engaging in sex work (WESW) face disproportionate levels of gender-based violence (GBV), which both drives and results from HIV transmission. However, the roles of state actors and clients in this cycle remain underexamined. HIV prevalence among WESW is high in Zambia, therefore understanding how GBV contributes to HIV transmission, will inform effective prevention interventions.

We explore WESW experiences of physical, sexual, emotional, and economic violence from their clients and state actors, including police, and clinicians.

Methods: A secondary qualitative analysis was conducted on existing data with WESW throughout Zambia and their experiences of HIV prevention and GBV. Data were obtained from three separate sources: in-depth interviews from a prospective cohort study in Lusaka (n=18), formative research along the Kasumbalesa border (n=42), and a preliminary analysis of police interactions within Lusaka (n=39).

We used reflexive thematic analysis and applied the United States Agency for International Development's (USAID) Domains of Gender Analysis.

Results: WESW were vulnerable and had increased risk of both GBV and HIV transmission in four domains: laws and policies, control over resources, patterns of power, and personal safety.

When seeking HIV treatment, women experienced verbal abuse, discrimination and were denied services (ex: Antiretroviral Therapy or STI treatment) from government clinics, making them hesitant to return for testing and treatment [resources; power].

Participants also described how identities of migrant status and gender (trans- vs. cisgender identity) resulted in unique discrimination in a Christian nation "according to my beliefs I can't attend to you." [resources; power] When seeking justice, WESW experience sexual, physical and economic abuse from police officers who "want to sleep with you again instead of helping you." [laws; power; safety] Clients knowingly infected WESWs with HIV or threatened to kill them: "he pointed a gun at me and asked me to say my last prayers." [power; safety].

Conclusions: Threats to WESW health and safety are rooted in dehumanization and power dynamics, ultimately putting them at great risk of acquiring and spreading HIV. There is a need to further investigate sex workers' experiences of GBV and apply intersectional approaches to interventions that include state and non-state actors.

EP0571

PrEP my way: client preferences for accessing pre-exposure prophylaxis - a demographic analysis

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Background: In Dong Nai, Vietnam, HIV pre-exposure prophylaxis (PrEP) service access points have evolved over time. Initiated in 2019 in public facilities, PrEP was expanded to private clinics meeting standard requirements by 2021. Since then, the province has seen increases in PrEP enrollment at private facilities, surpassing those in the public sector. The Meeting Targets and Maintaining Epidemic Control (EpiC) project aimed to identify demographic factors that may influence preferences for public versus private referral from community partners to help the province address client needs and improve performance.
Methods: We analyzed de-identified data from 1,041 clients who were successfully referred for PrEP from October 1, 2023, to May 31, 2024, after testing negative for HIV. Descriptive statistics and chi-square tests were used to investigate the relationship between factors and client choice of facility.
Results: Among the 1,041 clients, 58.3% opted for private clinics versus 41.7% who preferred public facilities. There were associations between choice of PrEP site and age, sex, population group, and testing modality ($p<0.0001$ for all variables). Males preferred private facilities more than females, and clients aged 15–34 favored them over those 35 and older. At-risk men chose private entities more than other groups, which included partners of individuals with high-risk of HIV-exposure, partners of people living with HIV, and the remaining group (people who inject drugs, at-risk females, and others). Clients from traditional outreach were more likely to choose private facilities compared to those from index testing.
Conclusions: This study underscores the importance of understanding client preferences in enhancing service delivery. By tailoring services to meet client needs based on their age, sex, population group, and other factors, we can better target enrollment at both public and private sites. Although PrEP is not yet included in the social health insurance program in Vietnam, greater preference for private PrEP services suggests a viable pathway toward sustainability in PrEP access. Addressing these preferences supports equity and access in HIV prevention and offers insights for health system improvements in Dong Nai and across Vietnam.

EP0572

Patient preferences for incentives in contingency management interventions in methadone treatment: a best-worst scale analysis

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Background: Contingency management (CM) has shown effectiveness in enhancing adherence and retention in methadone maintenance treatment (MMT). However, implementing CM in resource-limited settings can face many challenges, particularly due to costs associated with providing incentives.
This study aims to describe and quantify patient preferences regarding CM incentives to promote adherence and retention in MMT.
Methods: We conducted a cross-sectional survey using a best-worst scale (case 1) among 216 participants ages 18 or older undergoing MMT in six clinics in Hanoi, Vietnam. The study asked participants to complete 13 sets of best-worst scaling tasks. Each task presented a subset of four incentives chosen from a total of 13 incentives. Net scores for each incentive were calculated by subtracting the total times an incentive was rated as least appealing from the total times it was rated as most appealing.
Standardized scores were derived by dividing the net score by the sum of selections and then converted to weighted probabilities (WP) that ranged from 0% to 100% (intuition: an incentive with WP of 20% is twice as desired as an incentive with WP of 10%). The 95% confidence intervals (95% CI) were estimated using the bootstrap method. Data analyses were performed using RStudio (version: 2024.09.0-375).
Results: The mean age of participants was 44.7 (SD=8.0, range: 25-66). Most were male (94.9%), married (58.8%), and had not completed high school (69.4%). Nearly half (49.5%) had been on methadone treatment for more than five years. The most preferred incentives were "discount for monthly methadone fees" (WP=16.90, 95% CI: 15.98, 17.80) and "take-home methadone privileges" (WP=11.34, 95% CI: 10.14, 12.62), followed by "priority coupons for early medical examinations/consultations".
In contrast, the least preferred incentives were "being recognized/praised at their living area" (WP=4.49, 95% CI: 3.97, 4.97) and "being recognized/praised at their clinic" (WP=4.73, 95% CI: 4.13, 5.44).
Conclusions: Treatment fee support for methadone emerged as the most desirable incentive. Additionally, take-home methadone and getting coupons for early medical examination were also patients' priorities. These findings suggest potential low-cost CM strategies that could inform decision-making in MMT programs.

EP0573

Breaking barriers: mobilizing women and youth to address HIV stigma and improve prevention in marginalized African communities

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Background: HIV-related stigma remains a significant obstacle in achieving effective prevention and care, particularly in marginalized African communities where cultural norms and gender inequality exacerbate the challenge. Women and youth are disproportionately affected, often silenced by stigma, which limits their access to vital health services.

This study explored a grassroots approach that directly empowered women and youth as change agents to dismantle stigma and foster inclusive HIV prevention efforts.

Methods: Between February 2022 and December 2023, this intervention engaged 750 participants (70% women, 30% youth aged 15-24) across underserved regions in Nigeria. A three-phase strategy was employed:

1. Capacity Building: Training women and youth leaders on HIV awareness, stigma reduction, and peer communication techniques.
2. Community Engagement: Hosting participatory workshops, drama performances, and storytelling sessions to initiate open conversations about HIV.
3. Service Linkage: Connecting participants to free HIV testing and counseling services facilitated by trusted community leaders.

Pre- and post-intervention surveys assessed changes in stigma perception, testing uptake, and HIV knowledge. Qualitative data were captured through community dialogues and personal testimonies.

Results: Post-intervention, stigma perception scores decreased by 47% ($p<0.01$), and HIV testing rates among women rose by 38%. Youth engagement in workshops saw a 60% attendance increase, with over 80% reporting greater confidence in discussing HIV openly. Participants cited the use of storytelling and culturally relevant content as key to reducing fear and misconceptions.

Conclusions: This study underscores the power of grassroots mobilization in transforming attitudes and behaviors toward HIV in marginalized communities. By centering women and youth as leaders, the intervention created a ripple effect of awareness, reducing stigma and promoting health-seeking behaviors.

EP0574

Strengthening family well-being through positive parenting

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Background: The Families Matter! Program (FMP) is an evidence-based, parent-focused intervention aimed at promoting positive parenting and enhancing parent-child communication on sexuality, sexual risk reduction, and the prevention of child sexual abuse and gender-based violence (GBV). USAID IGIRE-JYAMBERE implemented this program to strengthen caregivers' skills on GBV prevention, harmful gender norms, and HIV status disclosure within families. It also aimed to improve sexual behavior, deliver key HIV, STI, and pregnancy prevention messages, and raise child protection awareness. By promoting positive parenting, the program sought to create safe and supportive home environments for Orphans and Vulnerable Children (OVC) and Adolescent Girls and Young Women (AGYW).

Description: USAID IGIRE-JYAMBERE organized evidence-based FMP sessions focusing on non-violent discipline, effective communication, and emotional support. Peer learning groups and community dialogues engaged caregivers and parents, while collaboration with local leaders reinforced positive parenting practices. These interventions significantly reduced harsh disciplinary practices and improved caregiver-child communication. Caregivers adopted positive discipline techniques, fostering safer home environments and strengthening positive family practices. Children and adolescents reported enhanced emotional well-being and increased school engagement. Parents and caregivers engaged in discussions on sexual reproductive health, GBV prevention, harmful gender norms, HIV testing, and disclosure, contributing to better health outcomes.

Lessons learned: The USAID IGIRE-JYAMBERE program demonstrated that positive parenting interventions effectively reduce harsh discipline and improve communication between parents and adolescents. These interventions created safer, more supportive home environments and strengthened family bonds. Engaging adolescents in open discussions on sexual health, GBV prevention, and HIV status disclosure improved their well-being and health outcomes. Fostering a trusting and supportive relationship between parents and children significantly contributes to healthier, more resilient families and reduces vulnerability to HIV.

Conclusions/Next steps: The Families Matter! Program has proven that positive parenting interventions can improve family dynamics and child well-being. USAID IGIRE-JYAMBERE will continue expanding the program to reach more caregivers, strengthen community engagement, and foster safe environments for vulnerable children and youth, contributing to better long-term health outcomes and family well-being.

EP0575

Acceptability of group-based HIV stigma reduction interventions for adolescents living with HIV and their caregivers in Uganda

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Background: Acceptability of interventions –defined as the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experienced cognitive and emotional responses to the intervention is critical for intervention success.
This study qualitatively explored acceptability and experiences of adolescents and caregivers participating in two group-based stigma reduction interventions in Uganda.
Methods: We conducted semi-structured in-depth interviews with 34 adolescents and their caregivers (dyads) upon completion of group-based cognitive behavioral therapy and a family strengthening intervention tested as part of a cluster randomized clinical trial (2020-2022). The larger trial recruited adolescent-caregiver dyads (N=178) from nine health care clinics in the greater Masaka region of Uganda.
Adolescents were eligible to participate if they were:
1) living with HIV and disclosed to;
2) between 10-14 years;
3) enrolled on ART at one of the participating health clinics, and;
4) living within a family, including extended family units.
In-depth interviews explored participants' motivation to participate, thoughts about the different aspects of the interventions, facilitators and barriers to session attendance, as well as perceived impact of the interventions on the different aspects of their lives. Data were analyzed using thematic analysis.
Results: Four main themes emerged from data analysis:
1) Anticipated outcomes, financial incentives, and ensured confidentiality as key motivators for participation;
2) Fear of stigma and uncertainty as initial concerns for participation;
3) Communication, incentives and facilitator support as key facilitators for attendance;
4) Miscommunication, sickness and family emergencies as barriers to participation;
5) Group-based learning, facilitator support, and content relevance among positive experiences related to program organization; and,
6) Evidence of awareness, building resilience, and connectedness as perceived impact of the interventions sessions.
Conclusions: Findings showed high intervention acceptability, as well as positive outcomes among adolescent and their caregivers. For adolescents, these benefits reduced loneliness, fostered a sense of belonging, and promoted resilience. Caregivers valued the shared group experience, which strengthened family support networks and improved communication within households. These findings highlight the potential of group-based approaches to address the social and emotional needs of both adolescents and their caregivers.

EP0576

HIV testing and behavioral drivers of HIV risk among adolescent boys and young men in Kenya: evidence from a nationally representative survey

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Background: Adolescents and young people in sub-Saharan Africa (SSA) bear a disproportionate HIV burden. Limited disaggregation of HIV prevention indicators between adolescents (15–19 years) and young people (20–24 years) hinders tailored interventions. This study compares HIV testing history and risk behaviors among adolescent boys and young men (ABYM) in Kenya.
Methods: Using data from the 2022 Kenya Demographic Health Survey (DHS), we analyzed a sub-sample of ABYM aged 15–24 years. Variables included socio-demographic characteristics, HIV testing history, and risk behaviors. Frequencies, proportions, chi-square tests, and logistic regression were used to examine age-related differences.
Results: Among 5,455 participants, 55.1% were adolescents and 44.9% were young men. HIV testing was significantly lower among adolescents (27.9%) compared to young men (44.5%; p<0.001).
Awareness of STIs (99.5% in young men vs. 99.4% in adolescent boys; p=0.784) and HIV prevention strategies such as consistent condom use (81.1%) and single-partner relationships (86.4%) was high across groups. However, condom use during the most recent sexual encounter was significantly higher among young men (85.7%) than adolescents (77.4%; p<0.001). Media exposure was more prevalent among young men.
Logistic regression revealed that young men were three times more likely to have tested for HIV than adolescents (aOR=3.49,95%CI:3.07–3.96, p<0.001). Education was a significant determinant; individuals with secondary education were nearly five times (aOR=4.63,95%CI:3.92–5.46, p<0.001) and those with higher education over six times (aOR=6.72,95%CI:5.19–8.71, p<0.001) more likely to test for HIV. Media exposure (radio: aOR=1.69; 95%CI: 1.46–1.95, p<0.001); television: aOR=1.35; 95%CI: 1.17–1.55, p<0.001) was also associated with higher odds of HIV testing. For condom use, higher education levels significantly increased the likelihood: secondary education (aOR=3.37; 95%CI: 2.84–3.97; p<0.001) and higher education (aOR=4.19; 95%CI: 3.12–5.62; p<0.001).
Conclusions: Age and education-related disparities in HIV testing and risk behaviors among ABYM in Kenya highlight the need for tailored interventions. Efforts should prioritize adolescent-focused testing, HIV education, and me-

dia-driven campaigns for young men. Overall, these findings highlight the importance of tailored approaches to mitigate HIV risk in ABYM in Kenya and similar contexts in SSA.

EP0577

Public and internalised stigma and discrimination experienced by teenagers living with HIV in a northern Nigeria state: a mixed-methods assessment of the double burden of the young

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Background: Stigma and discrimination remain a significant challenge for teenagers living with HIV especially in regions with limited awareness and several cultural misconceptions about HIV. Understanding the extent and nature of these experiences is critical for addressing identified barriers. We explored the public and internalized stigma and discrimination experienced by teenagers living with HIV in a secondary healthcare institution in northcentral Nigeria.

Methods: We conducted a mixed-methods study in which 120 teenagers living with HIV responded to structured 21-item validated questionnaires (quantitative phase) while 10 provided insights through in-depth interviews. Data was collected from December 2024 to January 2025 at 15 treatment facilities in Kogi State, northcentral Nigeria, after obtaining institutional approval as well as consent from parents of respondents under the age of 18 years. With the aid of IBM-SPSS (Version-28), appropriate descriptive and inferential statistical analyses were conducted on the quantitative data while thematic analysis was used for the qualitative data.

Results: A total of 104 respondents participated in the study with a mean age of 15.4 ± 2.3 years. The majority [61 (58.7%)] of the respondents were females, while almost all the respondents (94.8%) perinatally acquired HIV. A little above half of the respondents [63 (60.6%)] reported experiencing internalized stigma. Lack of peer support (aOR: 2.9; 95% CI: 1.6–5.1) and poor caregiver communication (aOR: 3.2; 95% CI: 1.8–5.7) were contributing factors to internalized stigma. Similarly, the majority of the respondents [77 (74.0%)] reported being stigmatized by the public, identifying places of such abuse to be the treatment centres (86%) and schools (86%). "Bullying" and "healthcare discrimination" emerged as key themes from the interviews, with "avoidance" and "withdrawal" being common practices of the respondents.

Conclusions: Stigma and discrimination are prevalent among the young people living with HIV who participated in the study. This can lead to such negative outcomes as loss to follow-up and treatment failure. Further studies will consider interrogating the direct effect of both public and internalized stigma and discrimination on the teenagers living with HIV, possibly cocreating remedies the identified causes.

EP0578

Using an adherence plan tool to strengthen adherence counselling at anti-retroviral initiation in South Africa: lessons learnt from a national differentiated service delivery performance review

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Background: In 2016, South Africa introduced integrated differentiated service delivery (DSD) for HIV, tuberculosis, and non-communicable diseases to support treatment adherence and retention. This guidance introduced adherence counselling standard operating procedures (SOPs) including an Adherence Plan (AP). In 2023, the guidance was updated and SOPs integrated into the country's ART clinical guidelines with the aim of increasing healthcare provider awareness and implementation.

Description: The AP is a structured tool designed to facilitate discussions between ROCs and healthcare providers on adherence, covering goal setting, medication schedules, appointment management, and psychosocial support (Figure 1).

It also serves as a record for future discussions and continuity of care across providers. In 2023, the National Department of Health (NDoH) conducted a Differentiated Service Delivery Performance Review (DPR) at 92 facilities across nine provinces to evaluate adherence-related interventions, including AP use. Among 6,557 ART ROC folders reviewed, only 3,654 included an AP, and just 1,362 were fully completed.

Lessons learned: Despite the AP's inclusion in national guidance since 2016, uptake remains limited, with substantial provincial variation (30–33% in Eastern Cape, Gauteng, KwaZulu-Natal, and Mpumalanga compared with >90% in North West and Western Cape). Low uptake and completion rates indicate missed opportunities for adherence support, potentially contributing to high facility disengagement rates observed during the DPR: 17% at six months, 24% at 12 months, and 34% at 24–36 months

post-ART initiation. Barriers include insufficient healthcare worker training and inconsistent integration into clinical workflows.



PATIENT ADHERENCE PLAN

Name and Surname:

FTIC Session 1 after chronic disease education session (date):

Adherence step 1: education on HIV ☐ TB ☐ Hypertension ☐ Diabetes ☐ Other ☐.....

Adherence step 2: Life goals:
My motivations to stay healthy are: (1)..... (2)..... (3).....
I will maintain a healthy lifestyle by ☐ adopting healthy eating habits ☐ getting regular exercise ☐ managing my stress

Adherence Step 3: Patient Support system
Agree for home visit: Yes ☐ No ☐ Preferred means of contact: SMS ☐ WhatsAapp ☐ Phone call ☐ Other ☐.....
Who can support me in my treatment: ☐ Family ☐ Friends ☐ Work ☐ School ☐ Church ☐ Other:

Adherence Step 4: Getting to appointments
I will come to my appointments by: ☐ walk ☐ public transport ☐ own transport
If I face a difficulty to come (money, transport, etc.), my alternative plan will be to ask for assistance from:
☐ family ☐ friends ☐ neighbour ☐ other .....
I will inform clinic I am unable to come to set appointment and request for an alternative appointment ☐

Adherence step 5: My readiness to start treatment
I feel ready and will start treatment:
☐ Yes
I am ready today ☐ Yes ☐ No but will be on..... (insert date)
☐ I do not feel ready and would like to discuss more with:
☐ peer ☐ family member ☐ other .....

Adherence Step 6: Medication schedule
The best time for me to take my treatment is: ☐ Morning ☐ Afternoon ☐ Evening

Adherence step 7: Managing missed doses
If I miss a dose, my plan is: (1) to take treatment as soon as I remember ☐

Adherence Step 8: Reminder strategies
To remind me to take medication I will use: ☐ watch ☐ cell phone alarm ☐ pill box ☐ buddy ☐ other .....

Adherence Step 9: Storing medication and extra doses
I will store my medication in: ☐ Safe place: ..... ☐ Far from reach of children
I will carry extra supply in: ☐ a bag ☐ pill box ☐ other:..... I will keep it in my: ☐ handbag ☐ pocket ☐ other:.....

Adherence Step 10: Dealing with side-effects
If I experience side effects, I will: Refer to treatment adherence pamphlet ☐
Inform clinic if side effects do not go away or are too worrying ☐

FTIC Session 2 (date):

Adherence Step 11: Understanding the treatment pathway ahead of me if I take my treatment well
☐ I understand the options for multi-month treatment supply and simplified collection available after one normal assessment result.

Adherence Step 12: Planning for trips
If I have some trips planned, before going away I will:
☐ Inform health facility before travelling to receive referral letter and treatment ☐ Get enough supply of treatment for trip
In case I cannot come to the facility before going away:
☐ I will report to the nearest health facility in the travel area as soon as I arrive to get access to treatment
☐ Carry evidence of my condition and evidence of the treatment I am taking

Adherence Step 13: Dealing with substance use
My plan to make sure I take my medication if I used alcohol or drugs is:
☐ To make sure I take treatment before starting to use drugs or alcohol
☐ Arrange for someone to remind me to take treatment in case I am intoxicated

Education on assessment: Viral load ☐ Sputum ☐ HbA1c ☐ BP ☐ Other: ..... ☐
☐ I understand that I can access multi-month treatment supply and simplified collection if my results are normal

Patients signature ..... **Date of signature** .....

EAC Session 1 (date):

EAC Session 2 (date):

Conclusions/Next steps: To address gaps, the NDoH has begun re-orientation sessions to improve healthcare provider understanding, uptake, filing and ongoing use of the AP, particularly in provinces with low uptake and/or completion rates.
These efforts include promoting AP printing and distribution by districts and provinces to all primary care facilities and integrating AP-related tasks into standard clinical workflows.

EP0579

Addressing chemsex practices in virtual spaces: lessons from a comprehensive harm reduction outreach

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Background: Chemsex, or sexualized substance use, involves using psychoactive drugs during sexual activities to enhance pleasure, reduce inhibitions, and/or minimize pain. This practice is increasingly prevalent in LGBTQIA+ communities, particularly among users of dating apps. In India, Chemsex poses significant risks for HIV and other blood-borne infections. The ACCELERATE project, a PEPFAR and USAID-supported initiative, aims to identify challenges faced by populations engaging in Chemsex and develop tailored service delivery packages to mitigate these risks and improve health outcomes.
Description: ACCELERATE operates the virtual platform - www.safezindagi.in to connect LGBTQIA+ individuals online with HIV-related services, such as testing, PrEP, and antiretroviral treatment. The platform specifically targets at-risk individuals using dating apps to seek sexual partners, where Sexual Health Managers (SHMs) guide clients through services. In June 2022, 100 Chemsex participants were reached via Grindr and Planet Romeo. Clients were interviewed about high-risk sexual behaviors (e.g., condomless sex, kink/BDSM) and their service needs.
Lessons learned: Analysis revealed significant health and mental health challenges, including genital injuries, histories of HIV/STI, and instances of rape or physical injury due to impaired consent. Clients experienced anxiety, depression, and drug dependence, with MDMA and Heroin as common drugs of choice. Many reported stigma-related barriers to seeking medical help. The assessment highlighted a strong demand for services addressing personal safety, mental health support, HIV, Hepatitis, and STI prevention/treatment, safe sex practices, and emergency responses. In response, tailored service packages focusing on HIV/STI support, mental health, and personal safety were developed.
Conclusions/Next steps: The outreach demonstrated the effectiveness of person-centric, harm reduction strategies through existing online platforms like Safe Zindagi. ACCELERATE plans to reach 1200 individuals to assess Chemsex-related needs and design an integrated approach with mental health, HIV/STI services, rehabilitation, harm reduction services and legal aid. High risk sites will be trained at providing crisis management support and linkage to virtual spaces, HIV/STI testing, ART linkage, harm reduction counseling, and mental health support in private and public sector.

EP0580

HIV sexual risk, stigma, mental health, and substance use among transgender people in Southeast Asia: the SEATrans study

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Background: Transgender people are at high risk of HIV, mental illness, and other health issues due in part to various biomedical factors, behavioral risks, stigma, and discrimination. We established Asia's first prospective observational transgender cohort study to assess their HIV, mental health and other health behaviors, risks and impacts.

Methods: Transgender persons, aged ≥18 years, attending the Rainbow Sky Association of Thailand and Tangerine Clinic in Thailand, Glink in Vietnam, and Victoria by LoveYourself in the Philippines were enrolled between December 2022 to October 2024. Six-monthly study visits were conducted which included assessment of behavioral risks, stigma, discrimination, and experiences of physical, sexual, and psychological violations related to being transgender, using self-administered questionnaires. Depression, anxiety, and PTSD were screened using PHQ-9, GAD-7, and PCL-5, respectively. Associations between stigma, discrimination, violations, and mental health problems were analyzed using Fisher's exact or chi-squared test.

Results: At baseline, of 415 transgender people with a median (interquartile range, IQR) age of 28 (23-33) years), 381 (92%) were transgender women, 31 (7%) transgender men, and 3 (1%) non-binary. Two hundred eighty (67.5%) were Thai, 75 (18%) Filipino, and 60 (14.5%) Vietnamese. 121 (29%) were living with HIV. Sixty-six (16%) engaged in sex work, 28 (7%) used substances, 43/375 (11%) engaged in chemsex. Ninety-three (22%) participants had moderate depression (PHQ-9 ≥10), moderate anxiety (GAD-7 ≥10), or severe PTSD (PCL-5 ≥33). Two hundred sixty-five (64%) reported ever experiencing stigma, 343 (83%) discrimination, and 106 (26%) violations. Compared to those without, those with mental health problems were more likely to report experiencing stigma (13% vs 28%, p<0.001), discrimination (7% vs 26%, p=0.001) and violations (16% vs 42%, p<0.001).

Conclusions: Transgender people in our cohort had high rates of risk behaviors, HIV prevalence, mental health issues, substance use, stigma, discrimination and violations. Mental health challenges were associated with lifetime experience of stigma, discrimination, and violations, highlighting the need for transgender-specific integrated interventions.

EP0581

A novel self-administered behavioral risk assessment tool identifies young South African women with high risk for STIs and HIV

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Background: For adolescent girls and young women (AGYW), the ability to self-assess their sexual risk behavior can be empowering and provide opportunity to adopt HIV/STI prevention strategies, including initiation of HIV pre-exposure prophylaxis (PrEP). Currently, no tool for behavioral risk self-assessment exists and it is unknown whether such a tool could be associated with STI detection and PrEP initiation.

Methods: PALESA was a pilot randomized trial conducted among sexually active AGYW aged 16–18 years from June 2023 to May 2024 in Johannesburg, South Africa. Participants attended monthly visits for six months (quarterly in-clinic and non-quarterly virtual), where they were offered oral PrEP. STI diagnostic testing (chlamydia, gonorrhea, trichomonas) was performed quarterly.

For this study, using literature review, in-depth interviews, and pilot testing, we designed and refined a 15-item behavioral risk self-assessment tool, capturing recent sexual behavior, partnership characteristics, and STI symptoms with participants scoring a point for each item where the response indicated potential risk.

The tool was deployed monthly via a web-based platform, with text message reminders including a personalized link to the tool. We quantified participant responses to the self-assessment tool and used a generalized linear mixed-effects model and an adjusted survival model to determine the associations of participants' self-assessment total scores with STI detection and PrEP initiation respectively.

Results: Among 55 participants (median age: 18 years, IQR: 17–18), 385 surveys were distributed, with 365 responses (94.8%) collected. The median behavioral tool total score was 1 (IQR: 1–3). Frequently reported items included older partners (38.4%), vaginal STI symptoms (26.3%), new sexual relationships (20.0%), and multiple partners (18.9%). Higher scores were associated with increased odds of STI detection (adjusted odds ratio: 2.64, 95% CI: 1.47–4.73) and earlier PrEP initiation (adjusted hazard ratio: 1.43, 95% CI: 0.56–3.63) although the latter was not statistically significant.

Conclusions: A self-administered online behavioral risk self-assessment tool was feasible to implement among this small cohort of AGYW and may be effective in identifying individuals at higher risk of STIs.

Further research is warranted to fully explore the predictive value of the self-assessment tool on STI diagnosis and PrEP use patterns.

EP0582

Addressing barriers to HIV testing in Nampula province, Mozambique: culturally tailored strategies to enhance differentiated HIV testing services

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Background: In Mozambique, sociocultural diversity and entrenched beliefs about HIV/AIDS impede epidemic control efforts to combat the epidemic. Widespread myths, stigma, and misinformation discourage HIV testing and treatment, particularly in rural areas. Nampula province struggles with low HIV testing uptake (only 56.9% toward the first 95 goal), due to cultural and healthcare system barriers.
This study aimed to inform a differentiated HIV testing services pilot program intended to improve client centered approaches for HIV testing in the province.
Methods: A qualitative study was conducted in five selected districts of Nampula. Fifteen focus group discussions were held with adolescents and young people of both sexes and adult men, and health committee members to explore HIV testing perceptions, beliefs, stigma, cultural norms, and systemic barriers related to HIV testing. In-depth interviews with healthcare providers captured insights into systemic challenges, missed opportunities, and training needs. Data from audio recordings and written notes were analyzed using content analysis in Atlas.ti version 24.1.
Results: Findings revealed pervasive misconceptions, including the belief that HIV is incurable or exclusively linked to promiscuity. Key barriers included fear of discrimination, low health literacy, and lack of privacy in HIV testing facilities. Participants emphasized the importance of strengthening health literacy through community-based events and radio programs to promote dHTS demand, increase awareness, and reduce stigma. Culturally tailored messaging and improved community engagement were identified as key strategies for rebuilding trust in healthcare services. Improved provider-patient communication was also highlighted as a strategy to enhance testing uptake, particularly among groups at high-risk of HIV infection.
Conclusions: Strengthening community engagement to rebuild trust in healthcare providers, along with culturally tailored interventions, such as health literacy campaigns and enhanced communication strategies, have the potential to increase HIV testing uptake in Nampula. Scaling these efforts to other regions can significantly advance Mozambique's progress toward achieving the first 95 goal.

EP0583

Enhancing PrEP uptake among adolescents and young people in rural Kenya

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Background: Pre-exposure prophylaxis (PrEP), is a useful preventative measure against HIV, but its use among adolescents remains limited. A variety of factors influence the sexual health decisions of young people, including whether they will use or adhere to HIV preventive measures like PrEP.
This study's objective was to assess the knowledge and attitudes towards PrEP, and explore the factors influencing uptake among adolescents in rural Kenya.
Methods: A cross-sectional mixed-methods study was conducted between February and July 2024 in Mwala-Machakos County Kenya.
The study included 400 adolescents and young people aged 17-24 years, selected through Stratified Random Sampling and 15 service providers selected through purposive sampling.
Structured questionnaires were used for quantitative data collection. Qualitative data was collected through focus group discussions and key informant interviews with service providers. Quantitative data were analyzed using SPSS, while qualitative data were analyzed thematically using NVivo.
Results: Overall, only 48% of the participants were aware of PrEP, and only 22% had adequate knowledge of its preventive role. Of those, only 6 % had acquired PrEP knowledge from hospital settings. Only 2% had used PrEP. Girls were more likely than boys to have heard of PrEP and used PrEP..
Among adolescents with no prior use, 53% were willing to consider using PrEP, although boys were less willing than girls (49.7% vs. 55.9%; P = 0.001). While 60% expressed positive attitudes, stigma and misconceptions were prominent barriers. Key factors influencing uptake included lack of knowledge, risk perception, stigma, fear of side effects and lack of youth-friendly services.
Service providers described strategies such as Integration with routine Health Services and community outreaches as the most common strategies used to increase knowledge and promote uptake.

Conclusions: PrEP is a crucial prevention tool, especially for adolescents who are considered as a vulnerable group in HIV infection. Although many expressed willingness to use PrEP, low awareness, misconceptions, and the systemic barriers to use highlight the need to expand hospital-based initiatives into Community-based interventions to address stigma, enhance education, and strengthen service linkages to increase access and utilization.

EP0584

Lessons from the adaptation and delivery of Wakakosha (I am Worth it) peer-led internal stigma programme in Kigali, Rwanda

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Background: The Wakakosha peer-led programme, co-led by Zvandiri and Beyond Stigma, addresses internal stigma among adolescents and young people living with HIV. Pioneered in Zimbabwe, the six-day residential course was adapted and delivered in Kigali Rwanda, targeting 30 Community Adolescent Treatment Supporters (CATS) from Dream Village. It focused on building self-awareness, fostering resilience, and reducing stigma through a structured and interactive curriculum, incorporating creative activities, mindfulness, and peer exchange.
Description: A diverse team from Zimbabwe, Rwanda, and Ireland facilitated the programme, with Ghanaian participants joining as part of a peer exchange. Activities included meditation, storytelling, music, and role-play, supported by group discussions and journaling. The curriculum was delivered in an inclusive, contextually relevant manner, with daily evaluations used to adjust and improve content in real-time. Key features such as music integration, tailored group sizes, and structured sessions created a safe space for emotional sharing and self-reflection.
Lessons learned: Participants reported high engagement and enhanced self-awareness. Interactive activities, such as songwriting and storytelling, were particularly effective in fostering openness and peer connection. Daily evaluations enabled timely adaptations, while local modifications, such as grouping participants by language, improved communication and inclusivity. Challenges included time constraints, logistical issues, and the need for clearer pre-session briefings.
Recommendations included extending session durations, strengthening translation support, and incorporating more cultural elements, such as local songs and traditional dance. Ghanaian participants were able to directly experience the programme and to learn from its delivery in Rwanda to inform future adaptations.
Conclusions/Next steps: The evaluation demonstrated the programme's effectiveness in reducing stigma and fostering resilience among participants. Feedback has informed refinements, including enhancing creative components, integrating multimedia tools, and adapting the curriculum for diverse cultural contexts. The success of Wakakosha highlights its potential for scalability. The next phase involved implementation in Ghana with tailored adjustments, ensuring sustainability and broader impact. By prioritising continuous improvement, the programme aims to strengthen peer connections and foster community resilience, ultimately contributing to reducing internal stigma among adolescent and young people living with HIV on a larger scale in Rwanda and elsewhere.

EP0585

Disparities in PrEP use among female sex workers enrolled in "MAS por nosotras" cohort in Buenos Aires, Argentina

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Background: Female sex workers (FSWs) in Latin America face elevated HIV-risk due to structural vulnerabilities. Although PrEP is an effective HIV prevention method, its use among FSWs remains low. We analyzed psychosocial factors influencing PrEP use in a prospective cohort of cisgender (CGW) and transgender (TGW) FSWs.
Methods: Baseline medical and psychosocial information from 157 FSWs without HIV was collected between June-2023 and August-2024. Questionnaires included sociodemographic information, PrEP use (prior or starting at enrollment), condom use, stigma in sex work (Grosso et al. 2019≥1), post-traumatic stress (PCL-5≥33), depression (CES-D≥16), childhood trauma and substance use (DAST-10≥3). Bivariate and multivariate binary logistic assessed correlates of PrEP use.
Results: 60.5% were CGW, 39.5% TGW, with median age 35.3 years (IQR=26.5–43); PrEP use, previous or after enrollment was 47.1% (n=74); 46.7% internal migrant and 28.4% international migrant, 37.2% unstable housing, and 49.7% engaging in street-based sex work.
Condom use (last sexual encounter) was 32%. Stigma related to sex work was experienced by 53.7% of participants. Mental health indicators:11% post-traumatic stress, and 53.9% depressive symptoms.
Childhood trauma: 49.7% experienced sexual abuse and 74.5% physical neglect. Substance use: 26.2% met criteria for substance dependence or higher, and 29.9% reported cocaine use (last year). Bivariate analyses showed

that PrEP use was more frequent among TGW [OR=5.13 (95%CI=2.55–10.33), p<0.001], internal migrants (OR=4.60, 95%CI=2.04–10.41, p<0.000), and lower age (OR=.96, 95%CI=.938-.994, p=.019).
No significant differences were found in mental health or trauma indicators between PrEP users and non-users. In the final multivariable model, PrEP use remained positively associated only with TGW gender identity [OR=7.55(95%-CI=3.15–18.10), p=.000].
Conclusions: FSWs exhibited social vulnerabilities, childhood trauma, poor mental health, and disparities in PrEP use, with CGW less likely to have used PrEP.
These results underscore the need for tailored strategies to promote PrEP use among CGW, integrate mental health support, and address structural barriers to reduce HIV prevention disparities in FSWs.

EP0586

Declining levels of internalized HIV-related stigma and associated factors in a cohort of antiretroviral-experienced people with HIV in Liberia, West Africa

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Background: The impact of HIV-related stigma on treatment outcomes, including HIV-1 suppression, in West Africa remains unclear. We examined factors associated with internalized HIV-related stigma and trends over time among people with HIV (PWH) in Liberia.
Methods: PWH on ART > 12 years of age from the HONOR cohort study, representing five of the largest HIV clinics in Monrovia, Liberia, responded to an HIV stigma survey at enrollment and every six months thereafter for 24 months. Stigma levels were assessed using an internalized AIDS-related stigma scale, a validated tool with dichotomous responses (agree or disagree) to six items reflecting negative perceptions related to HIV. The stigma score was the sum of positive responses (values 0–6), with higher levels indicating higher stigma.
Variance analysis was used to compare stigma scores across demographic factors. Logistic regression was used to relate baseline stigma to follow-up ART adherence, visits attended, and viral load (VL) suppression.
Results: 1,226 participants completed the survey at enrollment with a median age of 42 years [IQR 36–51], and 73.3% were females. Stigma scores were higher in females than males, 2.9 ± 1.4 versus 2.6 ± 1.3 (p<0.001), respectively. Mean stigma decreased from 2.8 ± 1.4 at enrollment to 1.9 ± 0.8 at 24 months. The decline was more pronounced among females, 2.9 ± 1.4 to 1.9 ± 0.8, versus 2.6 ± 1.3 to 1.8 ± 0.8 among males (p=0.06). Younger age (p<0.001), unemployment (p=0.036), shorter duration since HIV diagnosis (p<0.001), higher HIV clinical stage (p=0.047), and lower CD4+ counts (p=0.003) were associated with higher stigma at baseline.
Stigma levels were not related to education, marital status, or transmission mode. Higher baseline stigma was associated with lower ART adherence, fewer follow-up visit attendance, and less consistent VL suppression (p<0.05 for each) during 24-month follow-up than participants with lower stigma.
Conclusions: In Liberia, female PWH reported higher HIV stigma than males at baseline, which declined significantly in both groups during follow-up. Participants with higher stigma scores at baseline were less likely to be ART adherent and virologically suppressed over 24 months. Efforts to reduce HIV stigma may improve ART adherence and VL suppression.

EP0587

Bridging dialogue and action in youth behavioral change, Insights and lesson learnt from Ruvuma, Tanzania

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Background: Behavior Change and Communication is an interactive process that employs strategic communication channels to promote adoption of healthier and sustainable practices at both individual and community levels. Its goal is to ensure availability of accurate and relevant information, foster motivation, and overcome barriers to action. In sub-Saharan Africa, survey data from 35 countries revealed that only 36% of young men and 30% of young women correctly identified methods to prevent transmission of HIV and dispelled common misconceptions about HIV. The 2022/23 Tanzania HIV Indicator Survey reported a national HIV prevalence rate of 4.5%, with Ruvuma region ranking 8th highest at 4.9%.
Given the strong link between misinformation and the increased risk of HIV infection, the USAID Afya Yangu (My Health) Southern Project has amplified its communication efforts to provide accurate and up-to-date HIV service information during FY24. Our goal was to identify insights and lessons learned from youth engagement strategies using BCC.
Description: The methodology for disseminating accurate HIV information to youth involved communication pathways including interpersonal communication and peer-led small group discussions, facilitated by trained peers. Mass media was utilized through radio spots and interviews, social media influencers were engaged to create and share content on platforms such as Instagram, WhatsApp.

Lessons learned: After approximately 3,960 IPC sessions, 220 SGD engagements, 102 radio spots, and 206 social media posts, nearly 10,491 youths were reached. Among them, 5,836 received HTS, 14 cases were identified and linked to ART, 2,118 were connected to PrEP, and103,270 condoms were distributed. This proved that when BCC strategies align with characteristics of targeted population, cultural and geographical contexts, and desired behavioral outcomes, its possible to achieve a sustainable behavior change.

Challenges faced during implementation of these activities included gender dynamics, confidentiality, stigma, cultural barriers, Denial and Avoidance.

Conclusions/Next steps: The program has strategized in Creating safe spaces that focuses on interactive procedures when facilitating discussions among youth hence fostering comfortable environment for participants to fully engage despite of their gender, character or level of knowledge. This includes Youth Connect events that are conducted at a health facility which allows delivery of health services, health talks from trained facilitators and Entertainment.

EP0588

Correlates of viral suppression among adolescents living with HIV in Mozambique: results from a multi-center cross-sectional study

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Background: Despite enormous progress in the fight against HIV, adolescents and young people living with HIV (AYAHIV) have worse outcomes across the HIV care continuum compared to adults. In this analysis, we assessed correlates of viral suppression (VS) among AYAHIV 15 to 19 years old on ART in Mozambique.

Methods: Implemented in Nampula, Mozambique, the CombinADO trial (NCT04930367) was a cluster randomized trial comparing the effectiveness of a multilevel health services intervention to improve HIV outcomes among AYAHIV, to an enhanced standard of care on the primary outcome of VS (viral load [VL]<50 copies/mL).

The control condition was implemented at all study facilities (n=12); the intervention superadded to the control condition at a randomly selected half (n=6) of facilities and both intervention conditions were placed for 12 months. After 12 months of intervention implementation, AYAHIV age 10-24 years receiving care at each of the 12 HF were approached for enrollment into a post-intervention assessment that included questionnaires and a blood draw for VL measurement. This analysis includes participants aged 15 to 19 years who completed the post intervention assessment. Multivariate logistic regression reporting adjusted odds ratios (aOR) was used to quantify the association of different factors with VS. Data were collected between November 2022 and July 2023.

Results: Of 534 AYAHIV 15-19 years (72% female) included in this analysis, 295 (55%) had VS. AYAHIV who were married/cohabiting (aOR=2.96, 95% CI 1.41–6.23, p=0.004) and those who were aware of and said they understood their latest VL result (aOR=1.60, 95% CI 1.01–2.54, p=0.046) were more likely to have VS. VS was lower among AYAHIV who had high levels of internalized stigma (aOR=0.29, 95% CI 0.10–0.78, p=0.015) as well as those with a history of emotional or physical violence from a relative (aOR=0.52, 95% CI 0.33–0.81, p=0.004).

Conclusions: Increasing caregivers support, improving treatment literacy, and reducing internalized stigma may contribute to improving VS rates among AYAHIV in Mozambique. The overall low rate of VS among this population underscores the urgent need for AYAHIV tailored care in Mozambique.

EP0589

Intervention strategies for reducing HIV stigma and discrimination in Sub-Saharan Africa: a systematic review

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Background: HIV-related stigma and discrimination remain a pervasive barrier to the effective prevention, diagnosis, and treatment of HIV, particularly in Sub-Saharan Africa (SSA), where the epidemic's impact is most severe. Despite global initiatives to combat HIV/AIDS, stigma continues to challenge the attainment of the 2030 goal to end AIDS.

The objective of this systematic review was to comprehensively examine and synthesize the existing evidence on effective strategies for reducing HIV-related stigma and discrimination in Sub-Saharan Africa.

Methods: A comprehensive search of studies published between 2000 and 2023 was conducted in databases including PubMed, Google Scholar, and Web of Science. Data was extracted from included studies, and study quality was assessed. The study population comprised individuals and groups from diverse settings, such as healthcare facilities, communities, schools, and workplaces across SSA. Inclusion criteria were applied using the PICOTS framework, and eligible studies were reviewed for intervention types, targeted stigma domains, socio-ecological levels, and outcomes.

Results: The twenty-four included studies featured interventions targeting diverse populations, including community members, people living with HIV, students, and

sexual and gender minorities (SGMs). Interventions to reduce HIV stigma often combined multiple approaches: skill-building (75%) and information-based (67%) were most common. 79% targeted a single stigma domain, while 21% addressed multiple domains. None targeted intersecting stigmas. Duration ranged from one to sixty months. Stigma reductions were significant in 71% of studies, partial in 21%, and minimal or none in a few cases. Interventions generally targeted individual-level changes, though some addressed multiple socioecological levels, combining strategies like information dissemination and policy revisions.

Conclusions: Stigma and discrimination continue to prevent individuals from seeking testing and adhering to treatment regimens, thereby exacerbating the public health burden caused by HIV/AIDS.

These findings underscore the need for more comprehensive and multi-dimensional strategies to address HIV stigma and discrimination. Further research is needed to find effective ways to reduce intersecting stigmas among key populations, especially in areas heavily affected by HIV.

EP0590

Understanding factors contributing to loss to follow-up in the AMP trials: insights from participant interviews (HVTN 704/HPTN 085)

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Background: HVTN 704/HPTN 085 and HVTN703/HPTN 081 (the AMP studies) were two proof-of-concept clinical trials that demonstrated the feasibility of achieving HIV prevention using a broadly neutralizing antibody (bnAb) against sensitive viral strains.

Overall AMP study retention was high (96%), and the AMP behavioral study conducted interviews to evaluate factors associated with loss to follow-up (LTFU) among a subset of US participants.

Methods: LTFU participants (e.g., non-responsive to follow-up visit contact attempts) across a subset of 6 US-based sites were recruited for an individual semi-structured interview to elicit feedback on reasons for not completing study follow-up. All interviews were transcribed and coded by two study team members using a code book, and a framework analysis approach was used to identify themes associated with LTFU.

Results: Interviews were completed with 21 LTFU participants (median age: 32 years, 62% White, 24% Black, and 14% Hispanic). Four key themes emerged:

1. Positive and negative study participant experiences;
2. Fear and mistrust of the study product;
3. Challenging communication with friends and family about study participation, and;
4. The impact on HIV testing.

Logistical barriers, such as transportation challenges or relocation, were the primary reasons for being LTFU. Participants generally reported positive interactions with the clinic staff, but some described negative experiences during infusions since receiving IV infusions was unfamiliar. Concerns about the study product included fear of its safety and potential long-term health impacts.

Participants also shared that friends and family were concerned about their ongoing study participation and safety, requiring extensive explanations.

Finally, concern about HIV test results that could be misinterpreted as showing HIV acquisition and limitations on their HIV testing options were commonly reported.

Conclusions: Overall, LTFU participants in the US reported positive experiences in the study, despite some fear and mistrust of the study product. However, life circumstances such as relocation often prevented them from completing the study after enrollment more than concerns about safety or impact on their HIV testing.

Future bnAb studies should prioritize logistical support for participants, such as transportation assistance and flexible scheduling, while addressing fears about study products through transparent communication and education.

EP0591

The association of adherence counseling and virologic re-suppression in people living with HIV enrolled in the AFRICOS cohort on Tenofovir-Lamivudine-Dolutegravir: a retrospective cohort study, 2013-2024

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Background: The World Health Organization recommends enhanced adherence counseling for people living with HIV (PLHIV) with a viral load (VL) >50 copies/mL. However, the efficacy of adherence counseling in the tenofovir-lamivudine-dolutegravir (TLD) era remains unclear. We examined the association between adherence counseling and virologic re-suppression among PLHIV on TLD in the African Cohort Study (AFRICOS).

Methods: We analyzed data from PLHIV ≥18 years in the AFRICOS cohort (participants enrolled in select PEPFAR-supported clinical sites in Nigeria, Uganda, Tanzania, and Kenya during January 2013-September 2024.

We identified participants with VL >50 copies/ml following TLD initiation, who had at least one pair of VL tests and a completed survey associated with the second VL test within two years of the first VL. The exposure of interest was receipt of adherence counseling, extracted from semi-annual surveys of participants.

We fit a random effects logistic regression model with an outcome of re-suppression of VL to <50 copies/ml, using receipt of counseling and participant's country as fixed effects, participant ID as random effect, and a categorical variable to account for the magnitude of the first VL test result.

Results: Among 3376 PLHIV enrolled in AFRICOS, we identified 753 participants with VL >50 copies/mL on TLD; 54.1% were female, median age was 41.9 years (IQR 30.1, 49.6) and median time on TLD was 1.99 years (IQR 0.99, 2.78). These participants contributed 1258 VL test pairs; VL re-suppression on the second VL test occurred among 75.8% of the pairs. Receipt and non-receipt of counseling was identified in 860 VL pairs; 55.3% of VL pairs were associated with receipt of counseling. Receipt of counseling was not associated with VL re-suppression (OR 1.16, 95% CI 0.79, 1.70).

Conclusions: While virologic re-suppression rates were high among PLHIV taking TLD, there was no association found between receipt of adherence counseling and viral re-suppression. These findings contribute to ongoing discussions about the paradigm shift that may be necessary for adherence support in the TLD era and highlight the need for more robust data on effective adherence interventions beyond counseling alone.

EP0592

From awareness to action: the Condom Boy initiative and community-led HIV solutions in Shamva District HIV hotspot areas

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Background: The Condom Boy Initiative aims to reduce HIV transmission rates in Shamva District by improving access to condoms and empowering youth and individuals living with HIV. Utilizing a discreet dial delivery system, community members can request condoms, accompanied by educational outreach on safe practices and testing.

The initiative focuses on increasing condom access, empowering the community, enhancing education, reducing stigma, and implementing a robust monitoring framework to evaluate its impact, creating a sustainable model for HIV prevention.

Description: The Condom Boy Initiative was implemented in Ward 20, a mining hotspot with high HIV and STI prevalence due to transient populations and limited healthcare access. Recognizing these unique challenges, the initiative employs a dial delivery system for discreet condom requests, ensuring quick access while reducing stigma.

Alongside distribution, educational outreach promotes safe practices and the importance of regular testing. Engaging local stakeholders has increased visibility and usage, fostering a culture of awareness and empowering residents to manage their sexual health proactively.

Lessons learned: The Condom Boy Initiative has achieved significant outcomes since its launch in Ward 20, an area with high HIV and STI prevalence. Key findings include a 40% increase in condom usage, attributed to the convenience of the discreet delivery service.

Additionally, over 70% of participants reported improved knowledge of safe sex practices and the importance of regular testing. There was also a 30% rise in individuals seeking HIV and STI testing, driven by increased awareness. Positive feedback from 85% of users underscores the model's effectiveness.

Overall, the initiative exemplifies a successful approach to public health in high-risk communities, offering valuable insights for future programs.

Conclusions/Next steps: The Condom Boy Initiative in Ward 20 significantly improved public health outcomes, achieving a 40% increase in condom usage and a 30% rise in testing rates. Its dual approach of accessibility and education empowered individuals and destigmatized

sexual health discussions, with a 70% increase in awareness of safe practices. The initiative's discreet delivery model received 85% user satisfaction, highlighting the importance of confidentiality.
This successful template can guide future public health programs in addressing HIV and STIs in high-risk communities.

EP0593

Social network barriers and facilitators to early infant HIV testing: evidence from women living with HIV in Uganda

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Background: More than one million infants are exposed to HIV perinatally in high-burden African countries, leading to 120,000 infants acquiring HIV each year. Yet, only 60% of infants exposed to HIV worldwide receive guideline-concordant testing at 6 weeks of age.
Maternal factors associated with delays in early infant testing include uncertainty about maternal serostatus, non-disclosure, maternal age, parity, and education. Less is known about the role of social networks – the social ties that women have to others – in influencing early infant testing.
Methods: We conducted a study among women living with HIV who gave birth between 2010-2023. We embedded our study within an on-going longitudinal network study in 8 villages in Nyakabare Parish, southwestern Uganda. We collected social network data using a name generator to elicit all social ties.
We also collected data on social networks barriers and facilitators for infant testing. We present descriptive statistics given the small sample size (N=56).
Results: Only two-thirds of infants born to women living with HIV were tested at 6 weeks. Women had small health networks (size =2).
Three-quarters said they needed their partner's permission to seek infant testing. Half were worried about their partner's reaction if the infant tested positive.
Twenty percent worried about emotional abuse and 9% worried about being chased away.
Yet women had at least one social tie who encouraged infant testing (63%) and would provide financial support (61%), emotional support (80%), or informational support (52%).
More than half would be very likely to seek infant testing if a friend shared their experience with it.

Infant testing at 6 weeks of age	19 (61%)
Size of health network	2 (SD 1.3)
Needs partner's permission to seek infant testing	42 (75%)
Worried about partner's reaction if infant tests positive	24 (43%)
Worried about emotional abuse	11 (20%)
Worried about being chased away	5 (9%)
Has a social tie who encouraged infant testing	35 (63%)
Has social tie who would provide emotional support	45 (80%)
Very likely to seek infant testing if friend shares experience with infant testing	25 (45%)

Table 1. Social network characteristics among women living with HIV related to infant HIV testing.

Conclusions: Although partner involvement is a barrier to infant testing, women living with HIV have social support to facilitate access to infant testing. Friends sharing experience with infant testing can be a strong motivator to seeking early infant testing.

EP0594

Social vulnerability and CD4 cell count among people with HIV and tuberculosis in Uganda

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Background: Increased susceptibility to poor health outcomes due to intersecting socioeconomic and environmental factors (i.e, social vulnerability), affects health of people with HIV (PWH) and tuberculosis (TB). We assessed social vulnerability and CD4 cell count among PWH in TB treatment in Mbarara, Uganda.
Methods: We used data collected from an ongoing, prospective cohort study investigating TB, alcohol use, and lung health among PWH and TB. Using a deficit accumulation approach, we created a 26-item social vulnerability index (SVI) comprised of social determinants of health indicators, with higher scores representing greater social vulnerability. CD4 cell count (≥200 vs <200) was the primary outcome. We compared demographics, psychosocial factors, substance use, and self-rated health across SVI tertiles, with CD4 cell count as the primary outcome.
Results: Among 124 participants (mean age=37±11 years, 53% male), 53% had CD4 counts <200, with mean SVI score of 8.7±3.7. Factors increasing SVI score included economic instability (36% without clear employment, 77% and 66% with insufficient access to help with emergency funds or transportation, respectively); housing (90% without flush toilet, 93% using solid cooking fuel); and few (12%) completing education beyond secondary school. Conversely, access to social support was high with 59-73% reporting sufficient access to visitors who care about them and

provide useful advice including on home/work problems. Those in the highest vs. lowest SVI tertile showed higher rates of depression (76% vs 32%), alcohol dependence (49% vs 20%), illicit drug use (27% vs 15%), unhealthy alcohol use (61% vs. 37%), smoking (29% vs 10%), and poor self-rated health (89% vs 61%). Mean CD4 cell count was 209 (182), 288 (258), and 315 (282) in low, Medium, and high SVI tertile respectively.

Conclusions: Social vulnerability among PWH and TB is characterized by intersecting economic, educational, housing, and social support factors. We detected evidence of association of SVI and mental health symptoms and substance use but not with CD4.

Findings highlight the need to further assess SVI's impact on immune function, substance use, and mental symptoms and develop targeted interventions to address domains driving SVI, particularly mental health and substance use interventions.

EP0595

Pathways to continuity of care: understanding motivations and barriers to ART re-engagement

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Background: Despite global initiatives to expand antiretroviral therapy (ART), challenges in maintaining treatment continuity among people living with HIV (PLHIV) persist, which negatively affects both individual health outcomes and broader public health objectives. Approximately 1,141,314 PLHIV in South Africa remain off ART, despite 96% of South Africans being aware of their HIV status.

Project Last Mile aimed to examine the motivations and barriers impacting ART continuity and re-engagement, employing a multivariate analysis to identify key factors influencing these pathways in South Africa.

Methods: This mixed-methods study integrated quantitative analysis of self-reported treatment histories from 1,460 PLHIV with qualitative data derived from interviews with 72 PLHIV and 30 healthcare providers across five provinces. Participants were stratified into two groups: those currently on ART (adherent or previously interrupted but re-engaged) and those with current treatment interruptions. A mixed-effects logistic regression model analyzed the quantitative data, while thematic analysis was used to identify critical determinants and narratives related to ART disengagement and re-engagement.

Results: The quantitative findings revealed that ART interruptions were influenced by a range of factors, including mobility, ART side effects, fear of disclosure, and internalized stigma. Notably, one-third of treatment interruptions occurred within the first year of initiation. Psychosocial challenges, such as treatment fatigue (AOR 1.82; 95% CI 1.26-2.63), lack of social support (AOR 1.77; 95% CI 1.34-2.35), alcohol use (AOR 1.57; 95% CI 1.07-2.31), and substance use (AOR 1.57; 95% CI 1.04-2.37) were significantly associated with treatment disengagement. Qualitative data identified the desire to live healthily (reported by 80% of re-engagers) and caregiving responsibilities as primary motivators for re-engagement, while barriers included fear of judgmental healthcare staff and stigma. Factors such as changing clinics and the presence of supportive healthcare environments were also pivotal in decisions to re-engage.

Conclusions: The findings highlight the complex interplay of psychosocial, structural, and healthcare system-related factors influencing ART adherence. These results suggest that interventions should be tailored to address both individual and systemic barriers. Key strategies include expanding differentiated service delivery, improving healthcare provider attitudes, addressing stigma, and integrating psychosocial support within treatment programs.

EP0596

Re-organizing clinical processes, workflow and task-shifting to integrate HIV and NCD care: results of a formative mixed methods evaluation in Lusaka, Zambia

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Background: The risk of cardiometabolic non-communicable diseases (NCD) is increasing in the aging global cohort of people living with HIV (PLHIV), calling for a dedicated response. This abstract describes the process of re-organizing clinical workflows in antiretroviral therapy (ART) clinics in readiness for integrating NCD screening, diagnosis, treatment, and care into HIV services in Lusaka, Zambia.

Methods: A qualitative study design was used at four health facilities in Lusaka, Zambia. The design included four consultative focus group discussions with healthcare providers, four consultative focus group discussions with community healthcare workers, and four consultative focus group discussions with policymakers. It also included 20 in-depth interviews with PLHIV with cardiometabolic NCDs and six key informant interviews with senior clinicians and policymakers. A thematic analysis incorporating inductive and deductive codes was used to analyze the data.

Results: Our findings showed that integrated HIV/NCD care delivery requires change within the HIV program. This includes task-shifting NCD screening to lay healthcare workers and NCD management to non-physician health workers given specific roles and responsibilities. Increased workload and limited capacity to manage new tasks, such as resistant hypertension in PLHIV with multi-

ple co-morbidities, may act as a barrier to HIV/ NCD integration. Increasing the availability of NCD medications, treatment guidelines, and diagnostic tools in the ART clinic can make integration more effective. PLHIV noted the increased client-centeredness that comes with integration: "*I felt good because firstly, you care, and second, there is no long process, no congestion because everything is done at one place.*" (Male IDI participant).
Healthcare providers were motivated to provide integrated services due to increased awareness of NCD co-morbidities in PLHIV and greater confidence in delivering NCD through training. To effectively integrate NCD services into HIV care, the participation and buy-in of Ministry of Health leadership is crucial.
Conclusions: Health facilities are ready to implement HIV/NCD integration in Zambia, but strengthening the essential health system is required to support smooth integration. This includes trained and motivated human resources, consistent drug supplies, diagnostic resources, and improved clinic flow for PLHIV, with a focus on a one-stop shop for receiving care for both HIV and NCDs by PLHIV.

EP0597

Data from the Positive Perspectives 3 Study highlights the continued need for expansion of awareness, belief and confidence in undetectable equals untransmittable (U=U)

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Background: The Positive Perspectives studies are global, cross-sectional surveys of people living with HIV co-designed by community advocates, people living with HIV, healthcare providers and industry representatives. The third Wave of the Study launched in 2024.
Methods: This analysis utilized interim data from 834 participants in Positive Perspectives Study Wave 3 from adults living with HIV on antiretroviral therapy (ART) from Australia, Argentina, Chile, South Africa, Colombia, Italy, and USA. Variables examined included U=U awareness, stigma, and emotional challenges. Binary logistic regression was used to measure the relationship between awareness of U=U and various quality-of-life indicators, adjusting for age, gender, and income.
Results: 58.0% of people living with HIV reported being aware of U=U; of these, 64.1% reported being informed about U=U by their healthcare provider, 23.1% by other people living with HIV, 20.9% by the internet, 17.2% by social media, and 16.3% by general non-HIV healthcare personnel.
65.1% agreed that U=U-awareness had potential to increase confidence and enjoyment during intimacy. 67.7% and 64.7% recognized its potential to reduce internal and external stigma, respectively. However, of those aware of U=U, 35.0% did not feel confident explaining it to others and 39.9% expressed hesitancy about engaging in condomless sex with an HIV-negative partner, citing fears of residual transmission risk despite an undetectable viral load.
Among all participants with HIV-negative partners (n=148), HIV prevention strategies included condoms (64.2%), reliance on U=U (35.1%), and PrEP (29.1%).
Awareness of U=U was associated with improved perceptions of ART's impact on daily well-being (AOR=1.89, 95% CI:1.02–3.50), self-reported viral suppression (AOR=5.43, 95% CI:2.83–10.43), optimal sexual health (AOR=1.91, 95% CI:1.02–3.57), treatment satisfaction (AOR=2.42, 95% CI:1.31–4.49), and comfort discussing specific medications with healthcare providers (AOR=2.49, 95% CI:1.36–4.54).
Conclusions: U=U awareness was reported by a small majority of people (58%), and even amongst those, there was a lack of belief in the message; almost 40% of those aware of U=U did not feel comfortable having condomless sex even if they were virally suppressed. This highlights the need for more clear and effective communication to raise awareness, belief and confidence in U=U, and its impact on people's lives.

EP0598

Understanding preference trade-offs among South African adolescent boys and young men (ABYM) to inform user-centric target product profiles for next generation HIV vaccine design – is vaccines solely preferred?

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Background: Adolescent boys and young men (ABYM) are at high-risk for acquiring HIV and require highly effective HIV vaccines. In developing next generation HIV vaccines, considerations for understanding user-centric target product profiles to inform vaccine design is important. Thus, this study aims to understand the drivers in product choice and unique vaccine value perceptions among South African ABYM.

Methods: We recruited ABYM 15-24-years-old within Rustenburg, South Africa. Ethical approval was received, and participants appropriately assented/consented. A cloud-based App choice experimentation tool was developed, testing thresholds of maximum vaccine burden for minimum benefits. Vaccine scenarios included combinations of trade-off attributes: increasing/decreasing burden (number of vaccinations (shots), side effect (SE) intensity, SE likelihood of occurrence); varying vaccine benefits (degree of protection, duration (period) of protection, and possible disease elimination).

A skip logic algorithm informed the next vaccine combination to propose, dependent on acceptance or rejection response to previous combination.

Results: Among the 75 ABYMs, 76.0% were 15-19 years old, 54.7% obtained secondary level education, and 82.7% believed they were ≤50% at-risk of acquiring HIV. Scenario1 included degrees and durations of protection as benefit combined with the burden for numerous vaccine shots, where 93.0% were accepting high burden (6-8 shot over 2.5 years), wherein 25% opted for the lowest benefit (40-60% protection over 2-3 years) and 49% opting for greater duration of protection (≥40% degree and ≥4 years protection). Scenario2 included the possibility of diseases elimination by vaccine alone or a vaccine in combination with a drug regimen, where 57% preferred the vaccine only option, and 21% were accepting of highest SE burden (severe SEs occurring rarely). 17% did not accept any SE burden even when offered the vaccine only option to achieve disease elimination.

Conclusions: ABYM prefer vaccines alone as an option to reach disease elimination and were accepting of multiple shots within vaccination schedules. SEs and duration of protection are considerable drivers in vaccine choices too. These findings provide critical evidence toward vaccine design considerations for next generation vaccines for ABYM in Rustenburg and possibly South Africa.

EP0599

Identifying African American women's-specific barriers and strategies to increase pre-exposure prophylaxis (PrEP) use among them

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Background: African American cisgender women (AACW) face disproportionately high rates of HIV among women in the U.S. Pre-exposure prophylaxis (PrEP) effectively prevents HIV, but few AACW use it. Our study identified AACW-specific PrEP use barriers and strategies to inform a culturally responsive, strength-based intervention to increase PrEP use.

Methods: Guided by an intersectional lens, we conducted in-depth interviews (IDIs) with 12 AACW and three focus group discussions (FGDs) with 21 AACW in a southern U.S. metropolitan area. Interviews explored stigma and perceptions of HIV/PrEP, while focus groups confirmed IDI findings and identified intervention preferences.

We identified key themes across IDI participants through rapid qualitative analysis and a review of FGD notes and transcripts.

Results: IDI and FGD participants were on average 35 years old (range:19–54) and 33 years old (range:19–53), respectively. IDI participants were aware of PrEP but viewed it as intended for sexual minorities, sex workers, or persons who use drugs.

Participants also noted poor community perception of HIV vulnerability. Nearly all described facing stigma related to race, gender, or sexuality with half reporting healthcare discrimination. While anticipated PrEP stigma was not tied to their identities, several identified stigma around sexual health discussions and difficulty discussing HIV prevention with partners as barriers.

Similarly, FGD participants showed PrEP awareness, but several had misconceptions about its purpose and or their eligibility. Participants confirmed low PrEP awareness and HIV vulnerability perception among AACW.

They also shared preferred intervention strategies including: i) plain language messaging, relatable stories, age-specific group education by gender, and race-con-

cordant facilitators; ii) normalizing HIV/STI conversations and framing sexual health (e.g., STI testing) as self-care; iii) acceptance of self-empowerment and cognitive behavioral techniques (e.g., role-playing) for stigma reduction and resilience-building; iv) virtual or hybrid sessions with gender/race concordant PrEP providers for transparent communication about costs, side effects, and PrEP options; v) optional sessions for AACW's support system, including partners, family, or peers; and vi) prioritizing intervention towards younger more sexually active AACW.
Conclusions: Findings highlight the need for culturally responsive interventions that leverage community strengths to improve PrEP use, reduce stigma, empower AACW, foster partner communication, and address HIV disparities.

EP0600

Elicitation of eligible children through family index testing: insights from the FCT pilot in Nigeria

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Background: Family Index Testing (FIT) programs aim to identify HIV-positive children by tracing and testing eligible contacts of HIV-positive individuals. The FCT pilot evaluated the effectiveness of eliciting eligible children, informing the program's expansion.
Methods: Data from the FCT pilot were analyzed to assess the number of index clients enrolled, the responses obtained, and the number of eligible children elicited for HIV testing. Index clients provided information on their family contacts, including children eligible for testing based on program criteria.
Data from 5,432 index clients were analyzed to assess response rates and the average number of children elicited per client. Inferential statistics included a z-test for response rates and a t-test for elicitation averages.
Results: Of the 5,432 index clients, 4,999 (92%) provided family contact information. The z-test confirmed this response rate was significantly higher than the expected 90% ($z = 4.98$, $p < 0.001$). From these responses, 1,046 children were identified for testing, with an average of 0.21 children elicited per client highlighting variability based on family structure and disclosure dynamics. A t-test revealed this average was significantly lower than the expected 0.25 ($t = -533.45$, $p < 0.001$).
Conclusions: The FCT pilot demonstrates the feasibility of eliciting eligible children for HIV testing through family index testing. The high response rate among index clients underscores the acceptability of the approach.
However, the lower-than-expected elicitation per client suggests the need for targeted strategies to optimize engagement. It also highlights the need for tailored strategies to optimize contact tracing and engagement.
These insights are critical as the FIT program scales nationwide to strengthen pediatric HIV identification and linkage to care.

EP0601

Addressing silent barriers affecting HIV-positive young mothers with HIV-positive infants in adhering to antiretroviral therapy

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Background: HIV-positive young mothers with HIV-positive infants face multiple barriers to adhering to antiretroviral therapy (ART), including stigma, poor mental health support, and socioeconomic vulnerabilities. Key drivers such as gender inequality, limited healthcare access, and cultural norms exacerbate these challenges. Determinants including age, education levels, and lack of social support significantly influence ART adherence.
To address these issues, Women in Climate Action implemented a community-based initiative aimed at improving adherence rates and enhancing health outcomes for young mothers and their infants.
Description: The program, conducted from 2022 to 2024 in rural districts of Zimbabwe, focused on young mothers aged 16–25. Key interventions included establishing peer-led support groups, providing tailored mental health counselling, and conducting home-based follow-ups by trained community health workers.
Nutrition support and health literacy workshops addressed key determinants such as misinformation, poverty, and poor dietary practices.
Strong partnerships with local healthcare facilities ensured alignment with national HIV care strategies and facilitated seamless referrals for specialized medical care.
Lessons learned: The initiative led to a 40% increase in ART adherence among participants, with noticeable improvements in maternal mental health and empowerment. Peer-led support groups were highly effective in reducing stigma and building emotional resilience, while home-based care minimized clinic-associated stigma.
Addressing key determinants, such as poverty and misinformation, contributed to sustained adherence. Challenges like resource limitations and cultural resistance were mitigated through community engagement and collaborations with local stakeholders.
Conclusions/Next steps: The program demonstrates that addressing key drivers and determinants such as stigma, economic barriers, and lack of healthcare access is critical to improving ART adherence.
Expanding the initiative to underserved areas and incorporating digital health tools for education and monitoring can enhance its reach and impact.
This approach offers a scalable framework for addressing the unique barriers faced by young mothers living with HIV, contributing to global HIV prevention and treatment goals while promoting maternal and child health.

EP0602

Enhancing HIV treatment adherence through behavioral interventions: tackling stigma, discrimination, and human rights violations in healthcare settings

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Background: In Mangaung's Batho location, significant progress has been made in managing HIV, TB, and STIs. However, stigma and discriminatory behaviors from some healthcare workers continue to impact client retention and adherence, contributing to a 29% treatment default rate and increased risk of disease progression.

This project aimed to address these challenges through targeted behavioral interventions designed to improve adherence by fostering stigma-free, supportive healthcare environments.

Methods: Implemented across four healthcare facilities over 12 months, the program focused on training 150 healthcare workers on stigma reduction, human rights, and patient-centered care. A confidential patient feedback mechanism, utilized by 2,450 client, provided insights into barriers to treatment adherence, identifying key themes such as fear of disclosure (67%), perceived judgment (54%), and inadequate support structures (39%). Linkage officers engaged with 1,209 patients, facilitating referrals and supporting adherence monitoring through individualized counseling sessions.

Community dialogues and support group formations were introduced to strengthen social support networks and reinforce adherence messaging.

Results: Findings indicate that targeted behavioral interventions contributed to a 36% increase in adherence rates, with viral suppression improving from 64% to 71% within the intervention period.

Notably, healthcare worker attitudes showed a measurable shift, with 75% of trained personnel demonstrating improved patient interaction scores based on post-training evaluations.

Furthermore, patient-reported stigma experiences decreased by 41%, highlighting the intervention's impact on fostering more inclusive healthcare environments. The program also identified critical factors influencing adherence, including healthcare worker sensitivity, peer support utilization, and family engagement.

Facilities that incorporated routine client feedback saw a 25% improvement in service satisfaction scores, indicating the value of ongoing participatory approaches.

Conclusions: The findings underscore the effectiveness of behavioral interventions in enhancing adherence and addressing stigma at systemic and interpersonal levels. Future efforts should focus on scaling up the program, integrating digital adherence monitoring tools, and advocating for policy changes to institutionalize stigma reduction training within healthcare facilities.

Sustained investment in patient-centered approaches will be crucial to achieving long-term HIV treatment outcomes and reducing health gaps.

EP0603

HIV 95-95-95 global epidemic control targets: achieving the 3rd 95 in children and adolescents living with HIV through a comprehensive program targeting vulnerable children and adolescents in Zambia

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Background: Zambia has generally achieved HIV epidemic control as set in the global 95-95-95 targets, however, not all the three targets have been achieved in sub populations including children and adolescents. As part of the USAID-funded Empowered Children and Adolescent Program II (ECAPII), Project Concern Zambia is reaching vulnerable children and adolescents (VCA) with person-centered HIV services across the prevention and care cascade and their households are reached with family-centered socioeconomic services to address the social determinants of health. The program aims to contribute to the achievement and sustenance of HIV epidemic control in children and adolescents.

Description: Between 2020 and 2024, PCZ trained 467 Community Case Workers (CCWs) in case management and HIV treatment literacy and adherence emphasizing "U=U" (Undetectable = Untransmissible) messaging to achieve viral load (VL) suppression in 171 highly unsuppressed children and adolescents (0-20 years) living with HIV (C/ALHIV).

Through home visits informed by case plans, CCWs reached the C/ALHIV with adherence support and care services, including daily assisted administration of ART (DAART) for 3-6 months, escort to VL testing services and home-based collection of VL samples in partnership with healthcare workers, and tracked VL suppression. VL ranged from 1,100 to 8,060,000 copies. The goal was to improve treatment outcomes through targeted interventions.

Lessons learned: Of the 171 virally unsuppressed C/ALHIV enrolled in the program, 84 % (144/177) were virally suppressed successfully receiving DAART and other adherence support services outlined in their case plans. Other outcomes included 8 C/ALHIV who had VL results pending at the close of the reporting period, 1 was transferred to another care program, and 18 remained unsuppressed and continued to receive care.

	n	%
Total with Suppressed VL at the end of the follow-up period	144	84
Total Unsuppressed C/ALHIV with Other outcomes	27	16
Total	171	100

Conclusions/Next steps: The program was effective for the majority of C/ALHIV, indicating the effectiveness of person-and family-centered adherence support case management services in achieving VL suppression in C/ALHIV and improving HIV treatment outcomes.
The virally unsuppressed participants documented suggests need for further targeted support to address barriers to viral suppression, including the social determinants of health that the program is also seeking to address.

EP0604

Bridging gaps in HIV prevention in high-risk prison environment: a bespoke psychosocial intervention achieved a breakthrough in Kyrgyzstan

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Background: Kyrgyzstan provides in-prison opioid agonist therapy (OAT). With 9,500 inmates, of which 75% have a history of injecting drug use (IDU) including one-third within the prison, and an HIV prevalence rate of 10.3%, Kyrgyzstan offers crucial opportunities for studying HIV prevention improvement.
Methods: We developed and piloted a 12-week intervention HOPE (Help OAT Prison Engagement) from October 2022 to January 2024 to assess its feasibility, acceptability, and preliminary efficacy in linking eligible individuals to OAT in two male prisons compared with two male comparison prisons. HOPE included twice-weekly group psycho-educational sessions to improve mental health and boost motivation for addiction self-management.
Ninety-eight participants who are HIV-negative persons and have a history of IDU but not on OAT at enrollment were surveyed at baseline, at 3-, 6-, and 12-months follow-up. Multivariable logistic regression models were used in R version 4.0.0 to identify factors associated with changes in mental health and OAT initiation.
Results: Mean age was 45 years (SD = 9.1). By 6 months, six (11.54%; 95% CI 4.78- 24.13) HOPE participants-initiated OAT compared to 1 (2.27%, 95% CI, 0.12-13.51) of controls. The difference was not statistically significant (p=0.12).
Life satisfaction score increased significantly in HOPE group, from 20.3 at screening to 26.1 at 12 months (p<0.001). Depressive symptoms decreased significantly in HOPE group (p<0.001), from 19.0 at screening to 12.5 at 12 months but increased in control group from 17.0 to 18.6 (p<0.001). The HOPE group's self-reported resilience scores significantly improved from 2.9 (p= 0.019) at screening to 3.5 at 12 months (p=0.002).
Factors significantly associated with positive mental health changes were HOPE participation (β = 3.3; 95% CI: 0.73 -5.9, p=0.012), colony type (β = 7.4; 95% CI: 5.1–9.7; p < 0.001) and having children (β = 2.9; 95% CI: 0.82 - 4.9, p=0.006).
Conclusions: People in prison with IDU history can benefit from culturally tailored psychosocial intervention to improve OAT uptake as part of HIV prevention. This approach promotes positive behavioural change, improves their resilience and life satisfaction, and reduces depressive symptoms. Investigating the overall impact, cost-effectiveness, and barriers to scale-up will help improve HIV prevention and well-being in prisons worldwide.

EP0605

Increasing access to HIV testing services (HTS) for adolescent girls through OVC case management in southern and central provinces, Zambia

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Background: In 2024, Adolescents and Young People (AYP) accounted for 48% of new HIV acquisition in Zambia and Adolescent Girls accounted for more HIV acquisition than Adolescent Boys. Project Concern Zambia (PCZ), through USAID ECAPII, implements the Orphans and Vulnerable Children (OVC) Case Management Program that includes targeting vulnerable AYP at elevated risk of HIV acquisition and reaching them with long term and high impact community-based HIV prevention services.
Description: Between 2023 and 2024, PCZ integrated HIV testing services into the OVC Case Management program, trained, and certified 100 Case Workers to reach AYP at elevated risk of HIV with high impact HIV prevention services as part of OVC case management.
The HIV risk assessment tool was integrated into a vulnerability assessment tool to identify AYP at elevated risk. 12 Adolescents Agents of Change were mobilized, and they fostered adolescents access to non-discriminatory HIV testing services including index and social network testing, socioeconomic, and sexual and reproductive (SRH) services. AYP testing HIV-positive were linked to treatment services and those testing HIV-negative continued to receive HIV prevention services as part of OVC case Management.

FY	Total Tested		Grand Total Tested	Total Positive		Grand Total Positive
	Male	Female		Male	Female	
2023	997	1,498	2,495	4(0.4%)	6(0.4%)	10(0.4%)
2024	832	1,654	2,486	12(1.4%)	69(4%)	81(3%)
Total	1,829	3,152	4,981	16(0.8%)	75(2%)	91(2%)

Lessons learned: A total of 4,981 AYP at elevated risk of HIV acquisition were reached with HIV Testing services and other primary prevention interventions including

Pre-Exposure Prophylaxis (PrEP) and social care services such as Social Cash Transfers. A total of 91 (2%) AYP tested HIV- positive.

More Adolescent Girls (2% positivity yield) tested HIV-positive relative to Adolescent Boys (0.8%). After integration of index testing and social network testing in 2024, the positivity yield in adolescent girls significantly increased to 4% from 0.4% in 2023.

Conclusions/Next steps: The project's interventions led to a significant increase in HIV case finding among Adolescent Girls. The findings also indicate that community HIV programs should target adolescent girls with comprehensive primary prevention interventions as they are more at risk of HIV acquisition relative to their male counterparts.

EP0606

Advancing adolescent SRHR: a holistic approach to integrated care and service delivery for young people in Tanzania

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Background: Adolescents and young people (AYP) aged 10–25 face critical sexual and reproductive health (SRH) challenges, including teenage pregnancies, unsafe abortions, sexually transmitted infections (STIs), and HIV. The You(th) Care Project, implemented by the Children's Dignity Forum (CDF) and Network of Young People Living with HIV (NYP+), in Tanzania's Tarime District, seeks to empower AYP especially girls and vulnerable adolescents to advocate for SRHR, practice self-care, and access digital self-care services.

Implementing the Youth Care (YC) project effectively requires a strategic approach that addresses the unique needs of young people while ensuring sustainability and impact. Key approaches include Stakeholder Engagement and Collaboration, Capacity Building and Training and Community Sensitization and Awareness Creation.

Methods: A mixed-methods evaluation approach was employed, including case study design, with data collected from 100 participants across six health facilities in Tanzania. Methods comprised questionnaires, semi-structured interviews, focus group discussions, and document reviews.

Quantitative data were analysed using SPSS, while qualitative data were transcribed and thematically analysed. Policies and laws related to SRHR were also reviewed to identify gaps and propose necessary reforms.

Results: The project achieved significant improvements in SRH outcomes for AYP, with 96% reporting knowledge of safe contraceptive use, 94% aware of HIV testing procedures, and 68% understanding family planning methods. Positive attitudinal shifts included reduced HIV stigma 93% and greater comfort discussing HIV with partners 72%.

Behavioural changes included increased condom use 81% and regular HIV testing 69%. AYP demonstrated greater agency, with 79% serving as referral points and 73% actively demanding SRH commodities. Social norm changes were noted, including enhanced support from decision-makers and reduced stigma by healthcare workers. However, barriers such as limited youth-friendly infrastructure and restrictive policies persisted.

Conclusions: The You(th) Care Project has effectively increased SRHR knowledge, attitudes, and behaviors among AYP while promoting supportive social norms.

However, challenges, including inadequate budget allocations, policy barriers, and limited health infrastructure, underscore the need for:

- Policy amendments to reduce barriers, such as age restrictions for SRH services.
- Increased funding to expand youth-friendly services.
- Investments in community-based education and infrastructure to sustain progress.

EP0607

Why PrEP fails: drivers of PrEP discontinuation among adolescent girls and young women who subsequently acquired HIV in five HIV high prevalence districts in South Africa

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Background: Pre-Exposure Prophylaxis (PrEP) has demonstrated a 99% reduction in HIV acquisition when taken as directed. However, poor adherence to PrEP is common, especially among young people, resulting in breakthrough HIV acquisitions.

This study aimed to understand the lived experiences, challenges, and perceptions of Adolescent Girls and Young Women (AGYW) who initiated but discontinued PrEP use, and then subsequently acquired HIV.

Methods: A mixed-methods study combining quantitative and qualitative approaches was conducted among AGYW aged 18-31 years who acquired HIV after discontinuing oral PrEP use from January 1, 2023 to December 31, 2023. Outreach nurses at mobile clinics conducted a clinical file audit of 243 clients who received oral PrEP but subsequently seroconverted following PrEP interruption.

Additionally, semi-structured telephonic interviews were conducted by nurses with these clients to explore contributing factors to their PrEP interruption.

Results: The results from the file audit and semi-structured interviews found that the primary reasons for PrEP discontinuation were forgetfulness 58.8% (n=143), perceived lack of HIV risk/perceived lack of need for PrEP 25.5% (n=62), and side effects from PrEP medication 15.6% (n=38).

Furthermore, this cohort's risk for HIV acquisition was highlighted by the fact that 85.2% (n=207) of participants were unaware of their partner's HIV status, and 63.1% (n=152) reported inconsistent condom use.

Conclusions: The findings highlight the importance of delivering consistent client reminders to address forgetfulness, promoting continuous provided-initiated HIV risk assessments, and providing ongoing PrEP literacy.

Additionally, the findings support the critical encouragement of young women on PrEP to utilize dual protection HIV methods (e.g., PrEP and condoms). Utilizing these ap-

proaches, programs providing PrEP to AGYW can strengthen adherence support to optimize PrEP effectiveness and prevent HIV transmission in this vulnerable population.

EP0608

Joint patient-provider decision making was associated with improvements in quality of life, adherence and treatment satisfaction for people living with HIV in the Positive Perspectives 3 study

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Background: For people living with HIV, improving quality of life can, in part, depend on a strong relationship with healthcare providers (HCPs) to navigate treatment and optimise care. This analysis assessed the quality of relationships between people living with HIV and their HCPs, focusing on trust, comfort in discussing sensitive issues, and satisfaction with care.

Methods: This analysis utilized interim data from 834 participants in Positive Perspectives Study Wave 3 from adults on antiretroviral therapy (ART) from Australia, Argentina, Chile, South Africa, Colombia, Italy, and USA. Descriptive data were summarized with percentages, and logistic regression analysis was used to explore how involvement in treatment decisions influenced treatment-related outcomes. Multivariable analysis adjusted for age, gender and income.

Results: Overall, 62.7% reported high trust in their HCPs, however, 45.5% did not feel comfortable discussing sensitive issues (e.g., sexual health), 50.1% reported that they were not consulted by their HCP before prescribing their current HIV medication, and 43.9% were not satisfied with their involvement in treatment decisions. Additionally, 54.2% indicated that their HCP did not regularly check their satisfaction with their treatment.

48% (405 participants) indicated they were dissatisfied with an aspect of their visit in the past 12 months, and as a result 19.0% of those individuals sought clarifying information on their own, 12.0% sought a second opinion from another provider, 11% reported missing their HIV medication because of their dissatisfaction, 10.6% consulted friends for advice, and 8.9% missed their next scheduled visit.

People living with HIV who reported being involved in the treatment decision for their current HIV medication were more likely to report satisfaction with the treatment (AOR=2.17, 95% CI:1.47–3.20), compatibility with other non-HIV medications they were taking (AOR=1.76, 95% CI:1.21–2.57), alignment with their lifestyle (AOR=2.53, 95% CI:1.72–3.73), improvement in quality of life (AOR=2.14, 95% CI:1.45–3.14), and less likely to skip their medication (AOR=0.41, 95% CI:0.23–0.65).

Conclusions: These findings highlight the need to enhance patient-provider interactions and encourage collaborative decision-making. Strengthening these aspects may minimise loss-to-care, improve adherence, and enhance overall care quality, leading to better health outcomes for people living with HIV.

EP0609

Determinants of cervical cancer screening uptake among women living with HIV in Rwanda

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Background: Women living with HIV (WLHIV) face a higher risk of developing cervical cancer due to persistent human papillomavirus (HPV) infections. Despite this risk, cervical cancer screening uptake remains suboptimal in Rwanda. Identifying determinants of screening uptake is essential for targeted interventions.

Methods: A national cross-sectional study was conducted among 5,606 WLHIV aged 15 years and above, from January to July 2024. Participants were recruited from 115 HIV care clinics across all provinces and the City of Kigali in Rwanda. Data on cervical cancer screening history, sociodemographic characteristics, clinical profiles were collected via structured interviews and medical record reviews. Cervical cancer screening was performed in WLHIV aged 25-65 years as per the national cervical cancer screening guideline.

Multivariate logistic regression was used to identify factors associated with screening uptake within the past five years. Adjusted odds ratios, and corresponding 95% confidence intervals (CI) were reported.

Results: The study included 5,606 WLHIV, of whom 5,284 were eligible for cervical cancer screening. Among these eligible participants, 44% (n = 2,375) reported undergoing cervical cancer screening before the survey, and 2,091 WLHIV aged 25-65 years were screened during the survey. Screening uptake was significantly higher among women aged 45-54 years (50%, p= <0.001). Among those who had not been screened, 76.2% reported lack of awareness about cervical cancer screening, and 17.3 % lack of cervical cancer screening services at the nearest health facility as a reason for not undergoing screening.

Conversely, among those who had been screened, 20.8% attributed their decision to health education by health care providers, 46.5% to the availability of screening ser-

vices at the nearest health facility and 17 % to shared experiences from peer influence. In the multivariable logistic regression analysis, lower screening uptake was independently associated with being aged 55-65 years (aOR:1.7, 95%CI:1.5-2.0), those without health insurance (aOR:1.5, 95%CI:1.3-1.8) and those with a history of ART use for <5 years (aOR:1.3, 95%CI:1.1-1.6).

Conclusions: Cervical cancer screening uptake among WLHIV in Rwanda remains suboptimal, influenced by a combination of individual, social, and healthcare system factors. Tailored health education, and integration of screening into HIV care are critical to improving screening rates.

EP0610

Improving uptake of cervical cancer screening services among women living with HIV in Northern Nigeria: an interventional study

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Background: Cervical cancer accounts for approximately 604,000 new cases annually globally. It causes an estimated 342,000 deaths annually, making it the 4th most common cancer among women in both incidence and mortality after breast, colorectal and lung cancers. Annually, approximately 12,075 women are diagnosed with cervical cancer in Nigeria and about 7,968 women die from the disease. To address this, GGHN through its PEPFAR funded program, scaled up cervical cancer screening as part of the comprehensive package of care among WLHIV across three states in northern Nigeria.

Methods: This interventional study implemented a comprehensive package of interventions in January 2024 following interviews with healthcare providers to identify obstacles within the healthcare system and Focus Group Discussions with support groups of PLHIV to explore barriers to screening and community perceptions of cervical cancer. The interventions included client education and community awareness campaigns to reduce stigma and misconceptions, and community mobilization efforts. Additionally, traditional leaders and gatekeepers were sensitized about the benefits of cervical cancer screening to educate further and encourage women to accept screening services. Over nine months, the uptake of cervical cancer screening services was monitored quarterly.

Results: The uptake at the end of quarter 1 (October-December 2023) before deployment of the intervention package was as low as 85 cases/quarter and there was a 93-folds increment in uptake in the 4th quarter of 2024 (Jul – Sep). The quarterly uptakes after interventions were 559,1692 and 7893 cases/quarter for January – March, April-June, and July – September 2024 respectively. The Initial screening rates were below 1%, with a significant increase to 76% by September 2024 following the implementation of targeted interventions.

Conclusions: There was considerable improvement in cervical cancer screening uptake after the deployment of the intervention package, with an upward trajectory among the 3 quarters in 2024. Sustained efforts, including community mobilization and educational initiatives, are essential for maintaining high cervical cancer screening rates in the study locations.

This study demonstrated tremendous improvement in the uptake of cervical cancer screening services. Therefore, the interventions reported in this study may likely yield the same effects in similar settings in Nigeria and beyond.

EP0611

Unpacking the feasibility of continuous HIV testing among sexually active adolescents and young people as a prevention strategy

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Background: Continuous HIV testing is a critical strategy for early diagnosis and linkage to care, particularly among sexually active adolescents and young people (AYP). Despite global recommendations, testing uptake remains suboptimal within this demographic.

This study examines the feasibility of continuous HIV testing by analyzing prevalence, demographic determinants, and behavioral correlates to inform targeted prevention strategies.

Methods: A cross-sectional analysis was conducted using data from the Youth Risk Behavior Survey (YRBS) to estimate HIV testing prevalence among 157 sexually active AYP aged 15-24 across urban and peri-urban settings. The study period covered the past 18 months, focusing exclusively on HIV testing uptake.

Bivariate analyses assessed associations between HIV testing and demographic variables (sex, age, race, ethnicity, and sexual identity), as well as behavioral factors (age at sexual debut, number of sexual partners, condom use, and substance use during intercourse). Multivariable logistic regression models stratified by sex were applied to adjust for potential confounders.

Results: Analysis revealed that overall HIV testing prevalence among sexually active AYP was 31% (95% CI: 24%-38%). Female participants reported significantly higher testing rates (43%; 95% CI: 36%-50%) compared to males (9%; 95% CI: 4%-14%). Among females, age was a strong predictor of testing uptake, with those aged 20-24 having an adjusted odds ratio (aOR) of 2.3 (95% CI: 1.4-3.7)

compared to younger counterparts. Condom use during the last sexual encounter was associated with a 1.8-fold (95% CI: 1.1-2.9) increased likelihood of testing. Conversely, males engaging in multiple partnerships showed a moderate but statistically non-significant increase in testing (aOR=1.4; 95% CI: 0.8-2.6). Substance use during sex was linked to lower odds of testing (aOR=0.7; 95% CI: 0.3-1.5), highlighting behavioral risk factors influencing testing uptake.

Conclusions: Findings underscore the need for gender-responsive interventions aimed at increasing HIV testing among AYP, particularly adolescent boys and young men. Future initiatives should prioritize peer-led outreach, digital health interventions, and community-based approaches to address accessibility and stigma barriers. Strengthening school-based programs and integrating routine screening in youth-friendly healthcare services are essential for scaling up continuous HIV testing.

EP0612

Peer-led tailored biosocial support and sexual health reaches adolescent boys and young men: aA process evaluation of Thetha Nami (Lets' Talk) in rural KwaZulu-Natal, South Africa

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Background: Men are missing from the HIV prevention and care cascade. The Thetha Nami trial in rural KwaZulu-Natal, South Africa, uses peer-led social mobilization to engage adolescents and young people (AYP) aged 15–30 with mobile sexual and reproductive health (SRH) services that offer gender neutral and status-neutral HIV care and prevention. We used a mixed methods process evaluation from July 2023 to December 2024 to assess the intervention's implementation amongst adolescent boys and young men (ABYM).

Methods: We collected routine programmatic data electronically to evaluate uptake, reach and dose. In-depth interviews (n=49 AYP, n=22 with implementation staff) and group discussions (n=2 peer navigators (PN), n=2 clinical staff) provided insights into intervention fidelity and participants' experiences. Qualitative data were transcribed and analysed thematically.

Results: 17125 AYP reached by PN, 8190 (48%) ABYM for health promotion and needs assessments. Engagement increased intervention acceptability, helping ABYM recognize themselves as candidates for tailored HIV prevention and SRH services, including awareness of PrEP. 74 (0.9%) ABYM refused peer support, citing low risk perception and stigma.

Case-based management and follow-ups by PN's facilitated service linkage. A total of 4039 participants,1696 (42%) ABYM, referred to mobile SRH services by peer navigators attended the services. N=3600 point of care HIV tests were conducted; n=1616 (45%) amongst ABYM and 139 (4%) were newly diagnosed as living with HIV, including 53/1616 (3%) in ABYM. 1392 (82%) of the ABYM who attended the services were at risk of HIV acquisition and offered oral PrEP and 839 (6%) refused oral PrEP due to stigma, pill burden, and migration. 1021 (60%) ABYM were screened and tested for STI's, with 191 (19%) testing positive and 160/191 (84%) were treated. 111/224 (46%) uncircumcised ABYM were referred for VMMC.

Interviews revealed that that community stigma towards SRH services persists, particularly among men, creating a barrier to service access. Peer support, health promotion, partner and family support were facilitators for their engagement with SRH services.

Conclusions: Peer-led tailored biosocial community-based care with SRH effectively engages with a high-risk group of ABYM in this rural setting. However, stigma and low risk perception continue to limit service uptake.

EP0613

Risk factors and behavioral patterns contributing to HIV susceptibility among people who use drugs (PWUDs)

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Background: People who use drugs (PWUDs) are disproportionately affected by HIV due to risky behaviors such as needle sharing and unprotected sex. Limited data on HIV risk factors among PWUDs in Rwanda hinders the development of targeted interventions.

This study identifies behavioral and contextual risk factors contributing to HIV susceptibility among PWUDs.

Methods: A cross-sectional survey of 1,114 PWUDs in 10 urban districts of Rwanda was conducted in 2024 using respondent-driven sampling. Data on demographics, drug use, sexual behaviors, and access to harm reduction services were collected. Multivariable logistic regression identified associations between risk behaviors and HIV seropositivity, adjusted for confounders.

Results: Most participants are aged 25-34 (49.4%), followed by 18-24 (29.1%) and 35+ (21.5%). Of the participants, 977 (87.7%) were male, while 137 (12.3%) were female. The majority are from Kigali (43.3%), with 22.9% from the West. HIV prevalence among PWUDs was 12%. Risk factors significantly associated with HIV included needle sharing (AOR=3.6; 95% CI: 2.1-6.3, p<0.001), transactional sex (AOR=2.8; 95% CI: 1.7-4.9, p<0.001), and inconsistent condom use (AOR=2.4; 95% CI: 1.5-3.8, p<0.001). Lack of harm reduction services increased risk (AOR=4.1; 95% CI: 2.3-7.3, p<0.001). Participants aged <25 had lower odds of HIV (AOR=0.6; 95% CI: 0.3-0.9, p=0.021). Limited harm reduction access (22%) significantly increased infection risks, with odds reduced by half upon access (OR = 0.5).

Conclusions: HIV risk among PWUDs is strongly linked to needle sharing, transactional sex, and limited harm reduction services. Expanding access to harm reduction

programs and sexual health education is critical to reducing HIV transmission in this vulnerable group. Addressing these factors can enhance HIV prevention efforts in Rwanda.

Social, cultural, political, legal, environmental and structural determinants of health in different contexts

EP0614

Navigating stigma and strength: social and behavioural dimensions of HIV prevention and coping mechanisms in Bangladesh

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Background: Bangladesh, while maintaining a relatively low prevalence of HIV, faces significant social and behavioral challenges in preventing HIV transmission and supporting people living with HIV (PLHIV). Stigma, cultural norms, and behavioral practices create barriers to accessing testing, counseling, and treatment services. This study aims to explore the interplay of these factors in shaping HIV prevention strategies and the lived experiences of PLHIV in both urban and rural settings.
The objective is to identify the obstacles and opportunities for improving prevention and care initiatives, particularly for high-risk and marginalized populations.
Methods: The study was conducted over six months in both urban and rural regions of Bangladesh. A mixed-methods approach was employed, combining quantitative and qualitative data. The study population included 200 survey participants from high-risk groups, healthcare providers, and community members, as well as 30 in-depth interviews with PLHIV. Surveys captured demographic and behavioral data, while interviews explored personal experiences and perceptions.
Data were analyzed using thematic analysis for qualitative insights and statistical techniques for quantitative findings, disaggregated by age and gender to identify trends and disparities.
Results: The study found that pervasive stigma and misinformation about HIV significantly limit access to testing, counseling, and treatment. Women, particularly in marginalized communities, face heightened vulnerability due to gender disparities and sociocultural barriers. Structural gaps in healthcare infrastructure further exacerbate these challenges.
However, community-led initiatives, such as targeted education programs and peer support networks, have shown promise in fostering behavioral changes, reducing stigma, and building resilience among PLHIV.
These interventions have been particularly effective in promoting safer practices and improving access to support systems.
Conclusions: The findings highlight the urgent need for culturally sensitive, inclusive approaches to HIV prevention and care in Bangladesh. Strategies must integrate stigma reduction, gender empowerment, and education while strengthening community engagement and behavioral interventions.
By addressing these social dimensions, policymakers and practitioners can develop more effective HIV prevention and care programs. Future implications include enhancing collaborative efforts among stakeholders to close gaps in access and ensure sustainable support for PLHIV.

EP0615

"Because being gay is stigmatized in society, being HIV positive is stigmatized as well": Indian physicians' perceptions of stigmas related to LGBTQ HIV/AIDS individuals

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Background: While there has been significant research examining HIV/AIDS stigma and the barriers faced by LGBTQ people in India, little is known about how Indian healthcare providers perceive their own beliefs and preparedness to address these issues. This lack of understanding is concerning given the rising number of people in India living with HIV (Lyons et al., 2022), as well as the increasing number of HIV in people self-identifying as LGBTQ (Majumder & Kar, 2022). This study aimed to understand Indian physicians' perceptions of their work and training with LGBTQ individuals in HIV/AIDS healthcare settings.
Specifically, it focused on how these physicians view their roles as healthcare providers and how they may contribute to or hinder LGBTQ HIV/AIDS people's willingness to engage with healthcare services. Unfortunately, there is limited research on how well-prepared healthcare providers are to meet the intersecting health needs of these populations.
To address this gap, the project aims to explore the reported attitudes and levels of preparation of Indian physicians regarding HIV/AIDS issues specific to LGBTQ populations.
Methods: One-on-one interviews were conducted with twelve physicians currently working with LGBTQ HIV/AIDS healthcare clients in order to gather insights into their motivations and desired training norms.
Using thematic analysis, results identified four major themes that shape the participants' experiences and perceptions of their work and readiness to support LGBTQ HIV/AIDS people:
a. HIV/AIDS stigma,
b. LGBTQ stigma,
c. Support from colleagues, and;
d. Support from the healthcare system.
Results: Most participants noted the prevalence of LGBTQ and HIV/AIDS stigma and stereotypes within both the healthcare system and the broader Indian communi-

ty. Moreover, many in the medical field still hold negative associations with HIV/AIDS, viewing it as fearing actual transmission. It was also reported that LGBTQ HIV/AIDS communities face significant barriers to accessing healthcare services, with only those in more comfortable economic situations being able to obtain the necessary support.

Conclusions: These findings highlight the importance of medical providers as gatekeepers to HIV/AIDS services for LGBTQ individuals, including dissemination of health care.

EP0616

Analysis of disparities in the HIV care cascade between indigenous and non-indigenous peoples in Brazil

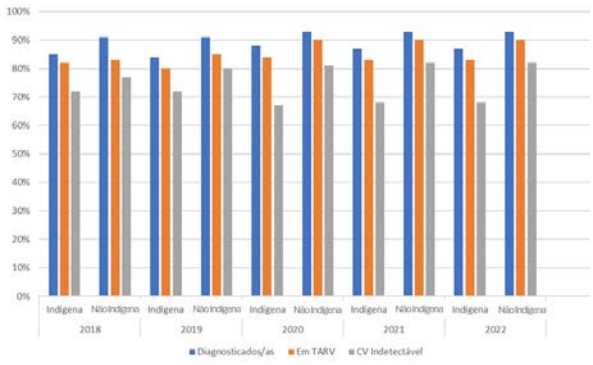
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Background: Although Brazil has made significant progress toward the global 95-95-95 HIV targets, indigenous peoples continue to face barriers that compromise access to treatment and viral suppression.

This study aims to assess the magnitude of such disparities by analysing the Social Determinants of Health (SDOH) that impact the health of indigenous communities and hinder adherence to Antiretroviral Therapy (ART).

Methods: This study applied a triangulated approach, combining quantitative and qualitative analyses. Epidemiological data from the Brazilian Ministry of Health (2018-2022) on ART coverage and viral suppression rates among Indigenous and non-Indigenous peoples were analysed. Simultaneously, qualitative analyses of health policy were conducted, focusing on their implications for access to and adherence to treatment. The combination of those approaches provided a comprehensive understanding of the disparities in HIV care.

Results: From 2018 to 2022, ART coverage between Indigenous peoples decreased from 68% to 62%, compared to stable rates of 78% between non-Indigenous peoples. Viral suppression between Indigenous peoples also decreased from 64% to 58%, while remaining stable at 74% in non-Indigenous peoples.



Furthermore, COVID-19 pandemic represented an external factor, intensifying disparities in HIV care due to disruptions in health services and its impact on the socio-economic conditions of Indigenous peoples. Despite advancements in HIV-related public health policies, those disparities persist, highlighting structural inequalities that negatively affect equitable access to ART.

Conclusions: Culturally adapted interventions are essential to mitigate disparities in HIV care among Indigenous peoples. Strengthening primary healthcare, through the training of healthcare professionals and the establishment of Indigenous Health Agents (AIS, acronym in Portuguese), is key to improving ART adherence. AIS profession, regulated in Brazil, holds prevention and health promotion activities while incorporating traditional knowledge. Additionally, the implementation of HIV educational programs sensitive to local cultural realities can optimize access to information and increase viral suppression rates.

EP0617

Associations between Sexual Orientation and Gender Identity Change Efforts (SOGICE) and mental health outcomes among people living with HIV in Chengdu, China

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Background: People living with HIV (PLWH) are disproportionately affected by poor mental health outcomes. Sexual Orientation and Gender Identity Change Efforts (SOGICE) are harmful practices aimed at changing an individual's sexual orientation or gender identity. PLWH with prior exposure to SOGICE may be at a higher risk of mental health disorders.

This study explores the associations between SOGICE exposure and mental health outcomes among PLWH.

Methods: Data were collected from an LGBTQ+ cohort study conducted in Chengdu City from November 2023 to December 2024. Participants were eligible if they were 16 years or older, self-identified as LGBTQ+, and lived in Chengdu City and surrounding areas. SOGICE exposure was assessed by asking if participants had ever undergone practices that attempted to change their sexual orientation and gender identity into cis-heteronormativity. The mental health outcomes assessed included depressive symptoms (PHQ-9), non-suicidal self-injury, suicidal behaviors (SBQ_R), PTSD symptoms (PCL-5). Multivariable logistic regressions were conducted to examine the associations between SOGICE and mental health outcomes.

Results: In total, 8039 LGBTQ+ participants were included in the cohort and 642 (8.0%) were PLWH. The average age of the PLWH was 35.5 years old. The majority of PLWH were men who have sex with men (MSM) (92.5%), cisgender individuals (66.2%), had full-time jobs (60.8%), and in relationships (64.14%). Nearly half of PLWH (47.2%) reported having suicidal ideation or attempts, 23.4% reported non-suicidal self-injury, 26.3% reported depressive symptoms, and 32.2% had PTSD symptoms.

Among PLWH, 64 (10.0%) reported they had undergone SOGICE, with psychotherapy (27), verbal insult (25), and forced change dressing style (19) being the most reported forms. PLWH exposed to SOGICE were more likely to

report depressive symptoms (aOR=2.73, 95% CI:1.40-5.37), non-suicidal self-injury (aOR=2.77, 95% CI:1.41-5.47), and PTSD symptoms (aOR=4.01, 95% CI:1.95-8.24). No significant association was found between SOGICE and suicidal ideation or attempts among PLWH.

Conclusions: Exposure to SOGICE practices among PLWH in this cohort was associated with the increased likelihood of poor mental health outcomes. These findings highlight the need for targeted mental health support for PLWH, particularly those with a history of SOGICE exposure, to address the elevated risk of mental health disorders.

EP0618

Exploring changes in stigma and its impact on People Living with HIV in Addis Ababa: a qualitative study

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Background: An estimated 620,000 people are living with HIV (PLH) in Ethiopia. Access to antiretroviral therapy (ART) has become nearly universal, particularly in the capital city of Addis Ababa. HIV-related stigma has been cited as a significant barrier to effective HIV prevention and treatment; however, little is known about how stigma in Ethiopia has changed over time since the widespread implementation of ART.

To address this gap, we conducted a qualitative exploratory study with frontline healthcare workers to capture their perspectives on stigma over time and its impacts on PLH in Addis Ababa.

Methods: We conducted 17 in-depth interviews with healthcare providers from three major ART clinics in Addis Ababa: Zewditu Memorial General Hospital, St.Peter's TB Specialized Hospital, and Tikur Anbessa Specialized Hospital.

The participants included physicians, nurses, and caseworkers with experience in HIV care service delivery. Data collection utilized a semi-structured interview guide, Interviews were recorded, transcribed, and thematically analyzed using a combination of deductive and inductive approaches.

Results: Participants reported a notable decrease in HIV-related stigma in Addis Ababa over time, driven by increased awareness, improved social support, and wide availability and access to effective ART.

Key improvements included increased openness in disclosing HIV status, reduced avoidance of large ART clinics, and improved social interactions among PLH. Despite these gains, significant challenges persist, particularly for women, adolescents, and individuals in rural settings or with lower socioeconomic status. Stigma continues to manifest in various forms, including gossip, exclusion, and fear of disclosure, often exacerbated by misconceptions about transmission. Healthcare providers emphasized the impact of ongoing stigma on ART adherence, mental health, and interpersonal relationships, particularly among women and youth.

Conclusions: The findings highlight both progress and persistent challenges in addressing HIV-related stigma in Ethiopia. While education and targeted interventions have reduced stigma in urban settings, its prevalence remains significant, particularly in rural areas and marginalized groups. To enhance HIV prevention and treatment outcomes, strategies must address the cultural, social, and economic factors driving stigma.

Culturally sensitive, community-specific interventions are critical, to strengthen public education and support systems. Future research should focus on stigma in subpopulations and rural communities to inform more inclusive strategies.

EP0619

"I wanted to fall pregnant and stay on study product": Experiences of women who became pregnant during HIV prevention trials and were discontinued from study product in Zimbabwe

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Background: Women spend about ten years of their lives pregnant or breastfeeding, a period during which they face an increased risk of contracting HIV due to biological and social factors. Despite this heightened vulnerability, pregnancy is often an exclusionary criterion in biomedical clinical trials. This measure aims to protect both the mother and the fetus from potential side effects of experimental drugs but is often set without consulting women about their preferences. Growing advocacy now calls for the inclusion of pregnant and breastfeeding women in research to ensure access to safe and effective HIV prevention options. This study explored the experiences of women in Zimbabwe who discontinued HIV prevention study products due to pregnancy to inform more inclusive research practices.

Methods: Twelve in-depth interviews were conducted with young women in Zimbabwe who became pregnant and discontinued study products in the MTN 034 and HPTN 084 HIV prevention trials. Participants were purposively selected to capture diverse experiences. Interviews explored their feelings about discontinuing the product, understanding of risks and benefits, and perspectives on inclusion in future research. Data were collected in private settings, audio-recorded, transcribed, and thematically analyzed.

Results: Most women wanted to continue the trial product, as it gave them peace of mind knowing they were protected from HIV. They felt continuing on the product

after becoming pregnant would have allowed them to contribute to science in women's health. Some believed the study missed an opportunity to understand the product's effects on pregnant women and their unborn babies. However, some women supported discontinuation, fearing unknown side effects on their unborn child, as the product was still under study.
A few noted spousal pressure to become pregnant despite the study discouraging pregnancy while on the product. Women valued having adequate knowledge to guide their decision-making.
Conclusions: Future studies should prioritize pregnant women's right to clear, accurate information on study product risks and benefits, enabling informed choices.
Trials must provide direct access to healthcare professionals, user-friendly materials, and trained staff to support participants' decisions. Including pregnant women in research enhances both participant autonomy and the safety and effectiveness of HIV prevention methods.

EP0620

Lost and found: exploring return to HIV care and treatment continuity in a fragmented health care system. a single center cross-sectional study in Mexico City

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Background: Disengagement from care in people living with HIV (PWH) is one of the main factors that threatens the long-term success of ART programs globally and may contribute to interruption of ART and advanced disease. We aimed to clinically characterize individuals returning to care (RC), after a period of being lost to follow-up (LTFU), and to determine the self-reported reasons for loss of continuity of care in our institution.
Methods: This was a cross-sectional, single-center study to describe virological and clinical status of PWH who RC to Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán in Mexico City, before and after a period of LTFU (defined as those individuals who were readmitted after a period of ≥6 months of not attending clinic visits, ARV pickup and lab testing) between January 2023 to December 2024. Clinical and laboratory information was obtained through a review of medical records. We applied a questionnaire to evaluate reasons for disengagement, clinical events and ART continuity.
Results: There were 121 readmissions during the study period and 70 were included in the analysis. Prior to LTFU, the median CD4 count was 558 (IQR 793-344) cells/mm³, 81.4% had an undetectable viral load (<200 copies/mL) and 7.1% had CD4 count<200 cells/mm³.
After RC, the median CD4 count was 437 (732-113) cells/mm³, 52.8% had<200 copies/mL, and 27.1% had a CD4 count <200 cells /mm³. 45.7% of individuals referred having stopped ART or took it intermittently during the period of LTFU. 7/70 (10%) of the individuals who RC were hospitalized and one died due to advanced disease.
The main reasons self-reported by participants for disengagement in care were: migration to another health system (38.57%), travelled/moved away (14.28%), mental health issues (10%), and were busy at work (10%) Of the PWH that migrated, 30% stopped or took ART intermittently.
Conclusions: In this study, those returning to care commonly presented with advanced disease and virological failure. The primary reason for disengagement in care was migration to another health care system, and up to a third of these individuals discontinued ART. Strategies tailored to facilitate the continuity of antiretroviral treatment across healthcare systems are needed.

EP0621

Assessing awareness of non-communicable diseases (NCDs) among aging people living with HIV in Pune, India

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Background: Advancements in antiretroviral therapy (ART) and expanded access have substantially increased life expectancy of people living with HIV (PLHIV). It is projected that the proportion of PLHIV ages 50 years or older will reach 37% by 2025, up from only 19% in 2005. Non-communicable diseases (NCD) such as diabetes mellitus (DM), hypertension, cardiovascular diseases, and cancer occur both at a greater prevalence and earlier than anticipated among PLHIV, including those on ART. Hence, it is important to assess the awareness of NCDs among PLHIV to guide the development of knowledge products.
Methods: The Meeting Targets and Maintaining Epidemic Control (EpiC) project in India led by FHI 360 conducted a baseline assessment with 1,024 PLHIV (≥40 years) who were receiving HIV services at either government or private health facilities. The assessment was implemented by outreach workers during routine ART adherence home visits. A structured questionnaire collected cross-sectional data on their physical and emotional well-being, lifestyle, and knowledge about NCDs. Data were collected and analyzed using KoBo collect and Power BI.
Results: Of the 1,024 PLHIV, 52% were females and 42% males. Fifty-eight percent were aged 40–49 years, 33% were 50–59 years, and 9% were ≥60 years. Seven percent self-reported having DM, and 8% reported being hypertensives. Notably, 66%were not aware of any symptom of diabetes, and 73% did not know any symptoms of hypertension. Among female respondents, 70% were unaware of symptoms of breast or cervical cancer, while 68% of female respondents did not know how to perform breast self-examination. Additionally, 11%expressed concerns about their emotional well-being, and 17% reported tobacco use.
Conclusions: This study highlights a significant gap in NCD awareness among aging PLHIV in Pune, which could

be an impediment to early detection and management of these conditions. EpiC India is therefore implementing a community-based self-care model to enhance NCD awareness and health seeking behavior among this population. The findings emphasize the need for educational interventions and integrated care models to address the dual burden of HIV and NCDs in aging PLHIV populations.

EP0622

Recent progress and setbacks in HIV criminalisation around the world

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Background: HIV criminalisation refers to the unjust use of criminal laws against people living with HIV based on their HIV status, through HIV-specific statutes or general criminal laws. This practice undermines access to HIV prevention, testing, treatment, and care while perpetuating stigma and human rights violations. Addressing HIV criminalisation is critical for achieving global health and human rights goals.
Methods: This analysis focuses on cases and legal developments documented in the HIV Justice Network's Global HIV Criminalisation Database throughout 2024. Data were reviewed to capture trends in the application, reform, or repeal of HIV-specific and general criminal laws globally. Updated data to June 2025 will be presented. Disaggregation by demographics will be conducted where possible.
Results: In 2024, 65 new cases were reported by the media across 20 countries, marking a continued rise in prosecutions post-COVID-19. Most cases occurred in Eastern Europe, Central Asia, and North America, with first-ever cases reported in Panama and Uruguay. Reforms or repeals of HIV laws occurred in three jurisdictions in North America; positive court rulings were recorded in Italy, Greece, and Kenya, and policy improvements benefiting people living with HIV were seen in Singapore and Uzbekistan.
However, setbacks included Canada's abandonment of its federal review of aggravated sexual assault laws inappropriately applied to HIV non-disclosure; Guinea's harsher penalties for "intentional HIV transmission", Tennessee's expansion of aggravated rape provisions to include people living with HIV; and reports from China that Chongqing was revising STI laws as part of a broader crackdown on HIV. In Uganda, the Constitutional Court struck down the death penalty provision in the Anti-Homosexuality Act 2023 but upheld other regressive aspects. Sub-Saharan Africa retained the highest concentration of HIV-specific laws, with 30 countries maintaining such statutes.
Conclusions: In 2024, data reveal both progress and ongoing challenges in addressing HIV criminalisation. While reforms in several countries signal growing momentum, the persistence of HIV-specific criminal laws in 79 countries and recent cases in 20 countries underscore the need for accelerated advocacy and resources.
Achieving the UNAIDS target of fewer than 10% of countries with punitive laws by 2030 requires sustained global focus and investment.

EP0623

Addressing HIV-related travel restrictions: progress and challenges in eliminating discriminatory policies

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Background: HIV-related restrictions on entry, stay, and residence continue to undermine the rights and mobility of people living with HIV worldwide. These policies are rooted in stigma and discrimination rather than public health evidence, creating barriers to employment, education, and family unity.
Methods: Data were collected between June – December 2024 for Positive Destinations, the new home for The Global Database on HIV-Specific Travel and Residence Restrictions (hivtravel.org), now hosted by the HIV Justice Network. We analysed data from official government sources, international bodies, civil society organisations, and feedback from site users. Conflicting information is presented transparently, prioritising official government positions when available.
We categorised restriction classifications as: none, partial (1 or 2) or severe (3 or more), depending on the number of restrictions relating to entry, short- or long-term stay. Additional data based on user feedback / lived experience in 2025 will further enhance the data.
Results: As of January 2025, Positive Destinations data reveals 83 countries with no restrictions and 68 countries with no or unclear information. Severe restrictions were identified in 17 countries: Bhutan, Brunei Darussalam, Cook Islands, Djibouti, Dominican Republic, Egypt, Iran, Iraq, Jordan, Kuwait, Malaysia, Marshall Islands, Oman, Russian Federation, Syria, Turkmenistan, and the United Arab Emirates.
These policies often result in outright bans on entry or deportation based on HIV status. Partial restrictions were present in 33 countries, including Angola, Antigua and Barbuda, Australia, Azerbaijan, Bahrain, Belize, Canada, Cuba, Dominica, Equatorial Guinea, Grenada, Hungary, Kazakhstan, Kiribati, Kyrgyzstan, Liberia, Maldives, Mauritius, Papua New Guinea, Paraguay, Philippines, Qatar, St. Kitts & Nevis, Saudi Arabia, Singapore, Slovakia, Sri Lanka, Sudan, Tajikistan, Tonga, Tuvalu, Vanuatu, and Yemen. Migrant workers, students, and women were disproportionately affected.
Conclusions: The findings underscore the urgent need to eliminate HIV-related travel restrictions, which perpetuate stigma and violate human rights. Advocacy must prioritise evidence-based policy reform, leveraging international frameworks and cross-sector partnerships.
Eliminating these restrictions is vital for advancing global health equity, reducing stigma, and ensuring the dignity and mobility of people living with HIV. Future efforts should focus on capacity-building for advocacy, legal reform, and community engagement to create lasting change.

EP0624

Starved for justice: examining food insecurity, discrimination, and health-related quality of life among people living with HIV in Pune, India

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Background: Poor health-related quality of life (HRQoL) is a key patient-reported outcome (PRO) linked to adverse clinical outcomes in people living with HIV (PLHIV). The relationship between systemic factors and HRQoL is underexplored in resource-limited settings.
Here, we examine associations between food insecurity, discrimination, and HRQoL in PLHIV.
Methods: We used baseline data (January 2023–October 2024) from 477 adult (≥18 years) enrollees in a lung health cohort study among PLHIV, recruited at a publicly funded ART clinic in Pune, India.
We included only virally suppressed PLHIV. HRQoL was assessed using the PROQOL-HIV, food insecurity using the Household Food Insecurity Access Scale (HFIAS), and discrimination using the Everyday Discrimination Scale (EDS), as continuous measures.
Higher PROQOL-HIV scores indicate better HRQoL; higher EDS and HFIAS scores reflect greater perceived discrimination and food insecurity. PROQOL-HIV scores were scaled 0-100%;HFIAS and EDS scores were mean-centered.
Beta regression (logit link) was used to assess associations between HRQoL, food insecurity, discrimination, and their interaction.Covariates included age, sex, polypharmacy, CD4count, TB history, education, income, and employment.

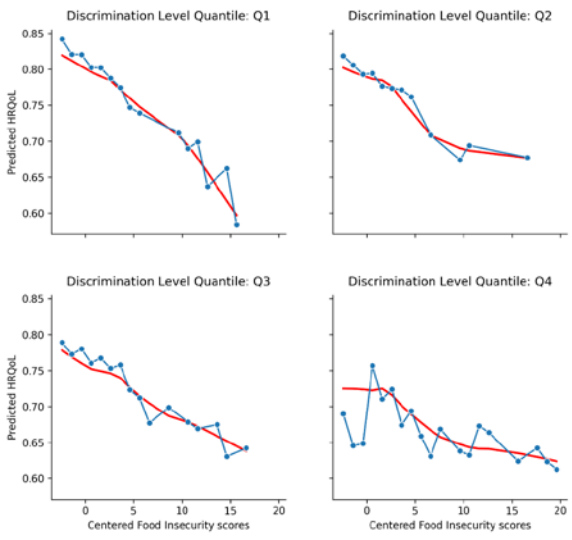


Figure 1.

Results: The median scaled PROQOL-HIV score was 82% (IQR: 71–88%). Higher EDS scores (Odds Ratio [OR]: 0.96, 95% CI: 0.95–0.97) and higher HFIAS scores (OR: 0.95, 95% CI: 0.94–0.96) were each associated with lower HRQoL. However, their interaction was associated with higher HRQoL (OR: 1.002, 95% CI: 1.001–1.004).
While counterintuitive, the decline in HRQoL with increasing HFIAS scores was steeper at lower EDS scores and less pronounced at higher EDS scores (Figure 1), which may explain the positive interaction effect.
Conclusions: Food insecurity and discrimination are both negatively associated with HRQoL, though the strength of association between food insecurity and HRQoL varies across discrimination levels.
Whether these findings reflect effective coping strategies at higher discrimination levels, desensitization due to chronic exposure to discrimination, or other mechanisms warrants further investigation

EP0625

Bridging barriers to HIV/SRH healthcare for young women in Lesotho through hair salons: a qualitative acceptability and feasibility study

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Background: Young women in Lesotho are at elevated risk for acquiring HIV, and yet, uptake of Pre-Exposure Prophylaxis (PrEP) remains low. In addition, there is limited information about and access to sexual and reproductive health services (SRH) at healthcare facilities. The Hair SALON project surveyed hair stylists and their clients throughout Lesotho to explore the acceptability and feasibility of providing HIV prevention and other SRH services

at hair salons as a novel venue to reduce some of the structural and cultural barriers of seeking care. Here, we report qualitative findings accompanying the survey.

Methods: We recruited 6 hair salon stylists and 8 hair salon clients who had completed the study survey for an interview in June-July 2024.

We used purposive sampling to select survey respondents who reported different acceptability levels of providing and/or receiving certain HIV/SRH in hair salons on the survey.

A trained member of the research team conducted individual, semi-structured interviews in both Sesotho and English at the study site in Morija, Lesotho.

The interviews were audio-recorded, translated to English where applicable, and transcribed. We analyzed the transcripts using rapid thematic analysis supported by Avidnote AI software. We disseminated a short documentary on the findings and solicited feedback from project participants and the wider community.

Results: Following analysis, three main themes were identified from the data: 1. Participants avoided accessing preventative HIV/SRH services provided by public healthcare facilities due to anticipated and experienced ill-treatment from healthcare staff, 2.

Participants identified an intersection of HIV-related stigma and social stigma against sexual activity as main barriers to accessing and using HIV/SRH services in health facilities, 3.

Most participants felt that due to the flexibility of hair salons, they were a more accessible space for HIV/SRH service needs, including HIV self-testing, PrEP and PEP, compared to healthcare settings.

Conclusions: The results suggest that hair salons could be an acceptable and feasible alternative safe space for offering HIV/SRH services. Based on the results, the study team is planning to pilot an HIV/SRH service package provided by trained salon stylists at selected hair salons across Lesotho.

EP0626

Transforming access to Combo HTM Care for key population women living with HIV in Lagos and Ogun States, Nigeria

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Background: Key population (KP) women living with HIV in Lagos and Ogun state, Nigeria, including trans women, lesbian, bisexual, or queer (LBQ) women, female sex workers, and women who inject drugs face intersecting barriers to accessing HIV, TB, and malaria (HTM) services. Challenges such as systemic stigma, economic marginalization, low preventive care awareness, and fragmented service delivery undermine their health outcomes and care engagement.

This study funded by GlobalFund Gender Equality Fund explores these barriers in Lagos and Ogun States, offering critical insights to inform equitable and integrated healthcare solutions tailored to the unique needs of these vulnerable populations.

Methods: A mixed-methods approach was adopted, engaging 209 participants across Lagos and Ogun States, comprising 16% trans women, 22% LBQ women, 38% female sex workers, and 24% women who inject drugs. Participants ranged from 18–35+ years, with 60% based in Lagos and 40% in Ogun. Snowball sampling was used to recruit diverse KP women. Semi-structured interviews and surveys explored service fragmentation, economic impacts, and awareness of preventive measures. The data was analyzed through Inductive Thematic Analysis and validated using triangulation to ensure reliability.

Results: Among other issues, fragmented healthcare delivery emerged as a critical barrier among respondents, with only 42% reporting access to both HIV and TB services at the same facility. 31% of respondents abandoned HIV and TB treatment entirely due to travel fatigue or logistical challenges, with 48% of respondents missing work due to prolonged clinic visits, and 32% reporting a daily income loss of NGN5,000–10,000. Among female sex workers, 26% admitted avoiding ARV refill appointments to prevent loss of earnings, with TB symptoms misinterpreted as general fatigue by 29%.

Conclusions: The findings underscore the impact of service fragmentation, economic hardship, and systemic biases on KP women living with HIV's access to HTM care. Tailored solutions are imperative, including KP-specific one-stop-shop models offering combo HTM service and targeted preventive education for these vulnerable women.

By addressing these diverse and deeply entrenched challenges, Nigeria can foster equitable healthcare systems that contribute to eradicating the co-acquisition of HIV, TB, and Malaria for its most marginalized populations.

EP0627

Clients experiences following an economic shock in Malawi: a descriptive cross-sectional study

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Background: Largescale economic shocks are increasing throughout eastern and southern Africa. Such shocks have disproportionately negative impacts on already poor individuals who have limited social protections. The devaluation of the Malawi Kwacha in November 2023 by 44% presents a unique opportunity to examine how economic shocks affect antiretroviral therapy (ART) clients' engagement with HIV services. We investigated the impact of devaluation on ART clients' use of health services, ability to meet basic needs, and their coping strategies.

Methods: We implemented a cross-sectional survey with ART clients in eight health facilities across four districts in Malawi. ART clients were randomly sampled from clinic

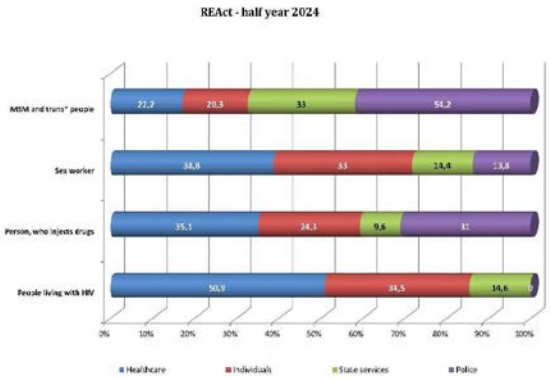
waiting spaces. Eligibility criteria: age ≥18 years; attending ART clinic for own health care; and initiated ART ≥1 year ago.
Survey modules included sociodemographics, use of ART services pre/post devaluation, and devaluation's impact on livelihoods, meeting basic needs (i.e., housing, food, clothing, and schooling), and use of HIV and other health services. We conducted descriptive statistics.
Results: A total of 355 clients were surveyed between February-April 2024. Of these, 153 (43%) were male, median age of 41 years (IQR 33-47 years), 242 (68%) were married and 118 (33%) had attended secondary or higher education. Approximately, 81% were in extreme poverty (household earnings <$2.10 per day). Median duration on ART was 8 years (IQR 4-13 years).
Following the devaluation, 96% reported increased commodity prices and eroded purchasing power (45%). A total of 12% experienced a reduction in income earned from work, 9% reported failure of household enterprises and 12% stopped receiving routine remittances. 28% of clients attributed missed ART appointments (>28-days late) or failure to seek other needed health services to consequences of devaluation.
To cope, 8% reduced food intake, 12% switched to cheaper (and often less nutritional) food, 8% sold household assets and 12% obtained a loan.
Conclusions: Economic shocks like currency devaluation have a negative effect on use of health services both directly (failed engagement with health services) and indirectly (eroding factors that promote health seeking such as access to food).
Embedding social protection programs within health systems could cushion against these shocks to promote resilient engagement in HIV services.

EP0628

Strategic partnerships and community-level interventions addressing human rights violations in the HIV response

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Background: Key affected populations face not only challenges related to acquired HIV risks but also significant stigma and discrimination. These issues deeply influence societal perceptions, often portraying these groups negatively. Consequently, these populations encounter systemic human rights violations, particularly from healthcare providers, social service systems, and law enforcement agencies.
Legal empowerment for these communities is crucial, as the existing state-guaranteed legal aid system, coordinated by the National Legal Aid Council, has historically been inaccessible to them. Limited coverage of legal services, with paralegals present mainly in rural areas and public lawyers in urban centers influenced by bias, restricts access to justice. This gap affects cases involving discrimination, breaches of confidentiality, and criminalization of certain behaviors.
Description: Since 2018, with the support of National Legal Aid Council, a Specialized Network of Paralegals was created from key population communities. Starting with 15 activists, this network has grown to 29 members: community activists, peers, outreach workers and Harm Reduction Program specialists.
In 2024, 4988 rights violations were reported through national system SIA CNAJGS, with 40% related to healthcare access, 15% to civil and labor rights, and 9% to human rights violations such as discrimination and violence. Additionally, 458 barriers to HIV-related services were reported via REAct-130 resolved.



Lessons learned: Paralegals play a vital role in drafting complaints, mediating disputes, engaging with communities to address systemic challenges, empowering vulnerable populations to claim their rights and improve access to justice.
Community-driven paralegal networks improve legal empowerment, addressing stigma and discrimination, critical barriers to achieving UNAIDS 95-95-95 goals.
Collaborative approaches and tailored interventions ensure equitable access to HIV prevention, treatment, and care.
Conclusions/Next steps: Scale up paralegal networks, enhance rights-based training, and foster partnerships to eliminate legal barriers, improving outcomes across the HIV cascade and to advocate for policy reforms to ensure sustainable access to justice and rights protection.

EP0630

The role of patent oppositions and higher patentability criteria in facing up to monopolies on HIV and TB drugs

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Background: Prolonged monopolies on essential medicines driven by secondary patenting and evergreening strategies, limit access to affordable treatment in low- and middle-income countries. While patent opposition mechanisms are often criticized for delaying drug approvals, they are crucial in preventing unjustified patents that extend monopolies without genuine innovation.
This study examines the effectiveness of India's patent opposition system in challenging weak patents on the HIV drug dolutegravir and the TB drug bedaquiline. It also

explores pharmaceutical evergreening tactics and the legal, technical, and financial considerations involved in patent opposition.

Methods: This study analyzes successful patent oppositions against secondary patents on tenofovir and bedaquiline in India in the period of 2019 to 2024. Data was collected from patent office records, opposition filings, and reports from civil society organizations. The analysis focuses on legal arguments, case outcomes, and the impact on generic drug availability and pricing.

Results: India's patent law provisions, like inventive step requirement and Section 3(d), which restrict patents on minor modifications without significant therapeutic benefits, have demonstrated its importance in promoting public health interest. Patent oppositions in India have effectively blocked weak secondary patents, enabling timely entry of generic alternatives and fostering competition. As a result, national treatment programs have been rolled out with more affordable HIV and TB medicines, increasing access and promoting health system sustainability.

Conclusions: Strengthening patent opposition mechanisms and enforcing rigorous patentability standards are essential to curbing the misuse of patent laws and ensuring equitable access to life-saving medicines. The findings underscore the need for global cooperation and national policy reforms to protect public health. Balancing innovation with the urgency of affordable treatment remains critical to sustainable HIV and TB care.

EP0631

Leveraging mobile phones by peer educators to monitor and report HIV-related human rights violations in the framework of the 47th cycle universal periodic review of DRC

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Background: The purpose of this research was to enhance the visibility of human rights violations faced by LGBTQ+ individuals in the Democratic Republic of Congo (DRC), particularly during the 47th cycle of the Universal Periodic Review (UPR). The objective was to collect, document, and report violations affecting key populations, including LGBTQ+, to ensure their inclusion in human rights discussions. The research also addressed the limited participation of LGBTQ+ groups in the UPR process, highlighting a lack of knowledge and confidence in the process among affected communities. The aim was to bridge these gaps and advocate for inclusive policies.

Methods: With support from the Elton John AIDS Foundation, Repro Justice Congo embarked on the process of monitoring, collecting, and documenting human rights violations faced by the LGBTQ+ community in DRC from September 2023 to February 2024. Peer educators, trained and equipped with mobile phones for real-time reporting, monitored violations. A team of lawyers supported case analysis. The Redcap platform was used to confidentially document eligible cases. This study aimed to enhance the visibility of LGBTQ+ human rights violations and advocate for their protection.

Results: 49 cases of human rights violations against LGBTQ+ persons were reported and documented, with 26 related to access to HIV services. The findings were submitted to the UPR process, with peer educators engaging with the UPR technical working group through virtual meetings. As a result, the issue was included in the stakeholders' summary report, as well as in the UN's compiled report. This led to four recommendations directed at DRC to improve the human rights situation for LGBTQ+ individuals.

Conclusions: The findings highlighted barriers faced by LGBT in accessing HIV services, particularly stigma and discrimination. By documenting these violations and submitting them to the UPR process, the research contributed to the inclusion of LGBTQ+ issues in the broader human rights discourse.

The four recommendations issued to DRC are a significant step towards improving legal protections and healthcare access for LGBTQ+ individuals. In the future, these results can guide policy changes, inform advocacy strategies, and strengthen support networks, ensuring more inclusive and accessible HIV prevention, treatment, and care services for LGBT.

EP0632

The impact of domestic violence and stalking on HIV risk: insights from Title 18 USC Chapter 110A, Section 2261

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Background: This study aims to analyze the increased risk of HIV among people experiencing domestic violence and stalking, as addressed by Title 18 USC Chapter 110A, Section 2261. The hypothesis is that individuals in such situations face higher HIV risks due to coercive sexual activities and limited access to healthcare. According to the CDC, about 41% of women and 26% of men have experienced contact sexual violence, physical violence, or stalking by an intimate partner.

Methods: The study was conducted over a one-year period, focusing on various locations across the United States. It involved a comprehensive review of legal documents, medical literature, and case studies. Data was collected from court records, healthcare reports, and interviews with healthcare professionals and individuals affected by domestic violence and stalking. The analysis aimed to identify patterns of abuse, the prevalence of HIV among these individuals, and barriers to accessing healthcare and prevention resources.

Results: The findings indicate a strong correlation between domestic violence, stalking, and increased HIV risk. People experiencing domestic violence and stalking are often subjected to forced unprotected sex, limiting their ability to negotiate safer sex practices. The isolation and

control tactics used by abusers further restrict access to healthcare and HIV prevention resources. Women who experienced intimate partner violence were over three times more likely to have a diagnosis of HIV/AIDS. The psychological impact of abuse also contributes to risky behaviors and a weakened immune system, increasing susceptibility to HIV.

Conclusions: Title 18 USC Chapter 110A, Section 2261, is crucial for addressing the legal aspects of domestic violence and stalking. However, integrated approaches combining legal protection with healthcare support are needed to mitigate the increased HIV risk among affected individuals. Enhancing access to healthcare, providing comprehensive support services, and raising awareness about the intersection of domestic violence, stalking, and HIV are essential steps in reducing the vulnerability of these individuals. Future policies should focus on creating a supportive environment that empowers people to seek help and access necessary resources without fear of retribution or stigma.

EP0633

PrEP policy in a long acting era: a policy barrier study of 179 countries

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Background:
Having missed the opportunity to use oral PrEP to reverse the course of the HIV epidemic, Lenacapavir now offers a historical moment to shift this trajectory. To fully capitalize on this, countries must close the gaps in PrEP eligibility policies and regulatory approvals that have now left millions without PrEP, resulting in uptake falling more than 80% below UNAIDS targets for 2024.

Methods: The HIV Policy Lab housed at Georgetown University is a online public data platform that longitudinally tracks 33 key legal and policy indicators critical to the HIV response. The analysis and visualization of national legal and policy environments, and their alignment with global norms are informed through a thorough review of legal and policy documents and comprehensive review of the data collected from global surveys of government officials.

On PrEP, a composite index assesses countries' alignment with World Health Organization guidance on i) population-specific eligibility and ii) regulatory approvals for different PrEP technologies.

Results: An analysis of national policies on PrEP in 179 countries shows policy remains a barrier to access. Sero-discorant couples had the highest eligibility for PrEP, followed by men who have sex with men, sex workers, transgender people and people who inject drugs.

Fewer than 50% of the countries make PrEP eligible for adolescent girls and young women. PrEP eligibility was determined based on either population-specific or general criteria that make PrEP accessible to high-risk individuals as outlined in national PrEP policies.

Among the various available PrEP technologies—oral, injectable, and vaginal ring—nearly three-quarters of the countries had granted regulatory approval for at least one of these options.

Conclusions: While oral PrEP is effective, policy gaps have hindered its full potential. However, Lenacapavir offers a unique opportunity to address these gaps in HIV prevention, particularly for high-risk groups who face issues with adherence or require a more frequent dosing schedule. Expanding PrEP eligibility policies by creating demand for Lencapavir can help accelerate the availability of generics while failing to use this opportunity may lead to governments rationing access to PrEP among vulnerable groups undermining efforts to end AIDS.

EP0634

Addressing misconceptions in clinical services uptake by adolescent girls and young women: debunking harmful social, religious, and cultural norms - insights from six districts in Zimbabwe

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Background: Adolescent girls and young women (AGYW) in Zimbabwe and Africa south of the Sahara face significant barriers to accessing clinical services, often rooted in harmful social, religious, and cultural norms. These misconceptions hinder health-seeking behaviors and contribute to adverse health outcomes. Fear of judgment, misinformation about services, and cultural taboos create formidable obstacles. Addressing these misconceptions is crucial for improving health outcomes among this demographic.

This presentation discusses a targeted intervention aimed at debunking these harmful norms and fostering a supportive environment for AGYW to access clinical services in Chipinge, Chivi, Gutu, Makoni, Mutare, and Zaka districts of Zimbabwe.

Description: Our multifaceted approach involved community engagement, leadership involvement, education, and collaborative dialogues. Traditional and religious leaders were trained on the Changing the River's Flow Dialogue Model and supported in conducting six community dialogues each on harmful norms and practices.

These dialogues brought together AGYW, community leaders, healthcare providers, and parents to openly discuss myths surrounding clinical services. The discussions culminated in drafting locally enforceable commitments, such as making clinics the first referral points for abused girls and ensuring timely reporting of gender-based violence cases to law enforcement.

Additionally, we developed educational materials to address misconceptions and highlight the importance of healthcare access.

Lessons learned: Initial assessments revealed that 70% of AGYW felt uncomfortable accessing clinical services due to misconceptions. Post-intervention surveys indicated a substantial shift: awareness of available services increased by 65%, and the number of AGYW willing to seek

clinical care rose by 50%. Participants emphasized the value of community discussions in transforming perceptions and reducing stigma.

Conclusions/Next steps: The successful debunking of harmful norms not only enhanced clinical service uptake among AGYW but also cultivated a supportive community environment. Moving forward, we recommend scaling these interventions, integrating feedback mechanisms to adapt strategies, and collaborating with local leaders to sustain momentum.

We invite stakeholders to commit to creating a more enabling environment for AGYW by prioritizing education and engagement. Together, we can dismantle barriers to health and empower young women to take control of their well-being.

EP0635

The association between social determinants of health and HIV risk behaviors and HIV testing among sexual and gender minority individuals: a national survey study

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Background: Social determinants of health (SDOH) predispose Sexual and Gender Minority (SGM) individuals to HIV through risky behaviors and less HIV testing. A composite SDOH measure could capture the cumulative impact of interrelated social factors on health outcomes.

Using data from the 2022 Behavioral Risk Factor Surveillance Survey (BRFSS), this study aimed to evaluate the association between composite measures of some SDOH and HIV risk behaviors and HIV testing among the adult SGM population in the US.

Methods: SGM individuals were identified through two questions that asked about respondents' sexual orientation and gender identity. Two primary outcomes of interest were HIV testing behavior and HIV risk behavior, and both were dichotomized as yes/no responses.

Participants who responded "don't know/not sure" or "refused" were excluded from analysis for each outcome, resulting in different sample sizes based on the number of valid responses available for each measure. SDOH was measured by ten items. We summed up the response score of each item to get a composite score, where a higher score indicates a worse social disadvantage.

A logistic regression model was developed to examine the association of SDOH composite score with HIV risk behaviors and HIV testing, adjusting for some other social demographic characteristics as confounders.

Results: In the BRFSS dataset, 10,401 SGM individuals provided yes/no responses to the HIV testing question, with 5,696 (54.76%) reporting lifetime HIV testing. For the HIV risk behavior question, 10,685 SGM individuals responded yes/no, of whom 2,059 (19.27%) reported engaging in HIV risk behaviors. SGMs with more social disadvantages (a high composite SDOH score) were more likely to engage in HIV risk behaviors (Adjusted Odds ratio (AOR) =1.15, 95% Confidence interval (CI) =1.12, 1.19) but also have a high likelihood of HIV testing (AOR=1.09, 95% CI=1.06, 1.12) compared with those with less social disadvantages.

Conclusions: A high composite SDOH score is associated with increased HIV risk behaviors and high HIV testing among socially disadvantaged SGM individuals.

This pattern reflects disparities in risk exposure and underscores the impact of targeted testing among vulnerable groups. Reducing the HIV burden among the SGM population requires addressing structural factors through multifaceted approaches.

EP0636

Unlocking access to long-acting HIV medications: a 194 country study of compulsory licensing

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Background: Long-acting medications could become a significant breakthrough in the prevention of HIV, if globally accessible. In October 2024, Gilead announced a voluntary license authorizing six companies to supply generic lenacapavir in 120 countries.

Middle-income countries excluded from this agreement may expand access with compulsory license - which allow their governments to authorize generic supply without patent holders consent - if national laws permit rapid access.

Methods: The HIV Policy Lab is a global public data platform that longitudinally tracks 33 key legal and policy indicators that shape the course of the HIV epidemic. The analysis, based on an expert review of legal documents and data review of a global survey of government officials, evaluates national legal environments and their alignment with global norms.

Using a novel dataset containing more than 200 intellectual property laws and policies we determined:

1. Which countries excluded from the Gilead voluntary agreement have compulsory licensing laws, and;
2. Whether civil society organizations can formally trigger legal proceedings.

Results: 84 of the 88 countries excluded from the lenacapavir agreement have compulsory licensing laws. National governments can use these provisions as leverage to negotiate greater access conditions or authorize the generic supply of lenacapavir without Gilead's consent.

However, 65 these 84 laws limit participation of civil society organizations in compulsory licensing proceedings.

While a handful of countries excluded from the Gilead agreement allow civil society organizations to formally trigger proceedings, most legislations have *TRIPS plus* provisions requiring compulsory licensing applicants to demonstrate manufacturing or economic capabilities before lodging a petition. These provisions weaken global efforts seeking greater access to lenacapavir.

Conclusions: Compulsory licensing provisions are widely adopted including in 84 of the 88 countries excluded from the Gilead lenacapavir agreement. However, there is a need for short- and medium-term reforms to enable the formal participation of civil society in compulsory licensing processes. Granting the ability to these organisations to formally trigger compulsory licensing proceedings would enhance their ability to enhance their ability to influence national policy agendas and advocate for the expanded access to lenacapavir.

EP0637

Risk of displacement based on neighborhood level socio-economic factors relates to higher intersectional discrimination and trauma exposure among black women living with HIV in Miami, FL, USA

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Background: Socio-structural factors such as racism, stigma, poverty, unstable housing, and limited access to care play a role in the impact of HIV among Black women in the U.S. Displacement from neighborhoods they reside in may have implications for their health and well-being. Using neighborhood and individual level variables we examined the relationships between risk of displacement, experiences of discrimination, and trauma exposure among Black women living with HIV.
Methods: Among 151 Black cisgender women enrolled in a cohort study in Miami, FL, baseline data was collected (2019-2020) on trauma exposure, discrimination (related to HIV status, race, gender, and sexual orientation), and sociodemographic variables (e.g., income).
Change in zip code level data (2014 – 2019) on poverty level above 150%, bachelor degree, Black individuals, White individuals, renter occupied house, owner occupied house, median gross rent, and Airbnb house and apartment fees were used to assess the risk of displacement (dichotomized [0, 1]).
Spatial analyses and nonlinear regression models were conducted accounting for robust standard errors (controlling for age and crime) to assess risk of displacement on discrimination and trauma exposure using Stata version 18.
Results: Spatial analyses and nonlinear regressions indicated that higher risk of displacement was associated with higher trauma exposure (5.78 [2.78], p<.01) and higher discrimination experiences related to HIV-status (4.22 [4.97], p<.01), race (4.50 [4.41], p<.01), gender (3.46 [4.52], p<.01), and sexual orientation (3.44 [3.34], p<.01).
Conclusions: Our findings echo the need for policy and resources geared at addressing socio-structural factors. Ongoing research is needed to inform multi-level interventions that may be beneficial in minimizing the impacts of displacement and improving the well-being of Black women living with HIV.

Community-engaged/participatory social science-based interventions

EP0638

High prevalence of genital diseases among young female domestic workers in Mali and the role of community-based support in promoting sexual health: the ANRS-0005S 2DM2K project

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Background: In Mali, the increasing migration of rural girls to work as domestic workers in cities exposes them to sexual health vulnerabilities due to young age, poverty, sexual violence, exploitation, lack of knowledge, and limited access to adapted care. We aimed to characterize young female domestic workers (YFDW) who tested positive for genital diseases or declined testing during community-based activities.
Methods: As part of the ANRS-0005S 2DM2K project (2023), sessions were held in Bamako neighbourhoods (communes 2,4,6) and in provinces, to inform YFDWs about the integration of a global and sexual health offer, provided by ARCAD-Santé PLUS, into routine community activities organized by the ADDAD association (YFDW peer-based support). Genital diseases testing (GDT) requiring gynaecological sampling was offered to sexually active YFDWs during medical visits.
We used multinomial logistic regression to assess factors associated with i) declining GDT and ii) genital diseases (reference: accepted and all tests negative).
Results: Of 908 YFDW participants to community activities, 746 requested a medical visit, and 222 were eligible to GDT. Among them, 46%(102) declined it, 54%(120) accepted, 30%(66) tested all negative, and 24%(54) tested positive for ≥1 genital condition (*Candidiasis sp.* n=24, *Gardnerella vaginalis* n=19, Human papillomavirus n=15). Compared to YFDW who had all tests negative, YFDW who tested positive and those who declined GDT were less likely to regularly attend ADDAD (aOR: 0.09, 95% CI[0.02–0.49], p=0.005; 0.34[0.12–0.97], p=0.044), and had lower monthly incomes (5500–15,000 FCFA [8-23 USD]: 6.11[1.44–26], p=0.014; 4.52[1.23–16.6], p=0.023; reference:≥15000 FCFA). YFDW who tested positive were younger (0.9[0.82–0.99] per year, p=0.030). Those who declined GDT had a lower contraceptive knowledge score (0.8[0.67–0.95] per point, p=0.011) and were less likely to have accepted pregnancy testing offered during the medical visit (0.19[0.05–0.76], p=0.019).
Conclusions: The prevalence of HPV, *Candidiasis sp* and *Gardnerella vaginalis* diseases was high. Regular attendance at ADDAD increased the acceptability of sexual

health procedures and reduced genital diseases, while socioeconomic vulnerability and low reproductive health knowledge had the opposite effects. Peer-based support and tailored interventions improve sexual healthcare access, but more efforts are needed to reach and engage the most vulnerable YFDWs.

EP0639

Engaging communities in maternal syphilis and HIV co-infection prevention through participatory research: insights from Zambia

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Background: Maternal syphilis and HIV co-infection pose severe public health risks, including adverse pregnancy outcomes such as stillbirths, neonatal deaths, and congenital infections. In Zambia, limited awareness, socio-cultural barriers, and healthcare misconceptions hinder timely diagnosis and treatment, complicating efforts toward disease elimination.
Methods: A participatory research approach was employed in Lusaka, Copperbelt, and Northwestern provinces, targeting 19 health facilities identified as syphilis and HIV hotspots. Community discussions were conducted with men, women of childbearing age, and elders using a structured interview guide. Health facility staff attended but did not intervene. Responses were anonymized and analyzed for emerging themes on knowledge, beliefs, and healthcare-seeking behavior.
Results: Participants demonstrated limited knowledge of syphilis and HIV co-infection, often confusing syphilis with gonorrhea and attributing infections to unhygienic practices like using public toilets or drinking dirty water. Herbal remedies were frequently cited as more effective than conventional medicine, particularly among men.
Misconceptions about maternal syphilis and HIV transmission, diagnosis, and treatment were widespread. Male involvement in maternal health was minimal, constrained by cultural norms, stigma, and economic barriers.
Conclusions: Developing culturally appropriate IEC materials, engaging traditional and religious leaders, and conducting large-scale community sensitization campaigns are critical. Introducing men's clinics and promoting couple-based antenatal care can strengthen early diagnosis and treatment of syphilis and HIV co-infections.
Participatory research revealed deep-rooted misconceptions about maternal syphilis and HIV co-infection. A community-driven, culturally sensitive approach is essential to design effective interventions that address these knowledge gaps, promote early care-seeking, and improve maternal and neonatal health outcomes in Zambia.

EP0640

Contrasting social media strategies for trial recruitment in the US, South Africa and Thailand

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Background: When adapted to the communities it seeks to reach, social media can support study recruitment. Best practices often generalize based on the developed world without examinations across diverse geographies.
Description: Contrasting three social media case studies in diverse locations with differing populations, cultures and digital environments revealed common principals and unique applications.
A 30-month, US social media campaign for HIV vaccine clinical trials focused on BIPOC and LGBTQ+ communities was developed with community input with micro-targeted messages to priority groups EG: Black faith leaders, MSM, LatinX, and Trans communities. Social media influencers including a woman of trans experience, a Latina woman living with HIV, a Black educator/activist, and a gay Black man were engaged to create content on their Instagram, TikTok, Facebook and YouTube channels. The campaign directed users to a study registry and secured nearly 5000 signups.
A South African social media campaign for COVID-19 vaccine studies was produced in 5 languages and featured local people and familiar settings. Data on social media performance was collected in addition to a post-campaign study showing 40.77% of respondents recalled the ad and 44.92% of respondents' reported their perception had shifted to considering participating in a COVID vaccine trial after seeing the ads.
The Thai campaign engaged social media influencers (SMI) to promote short, scenario-based videos developed with MSW-specific content to reach their combined 5 million+ LGBTQ followers. From September 2018 through August 2019 the SMI led to 17,393 website views and 63.3 men/month enrolled in a PrEP study, a marked increase over the prior period. Among later recruits, 36.4% reported learning of the study through social media.
Lessons learned: Social media campaigns reflecting community messages, messengers and culture show positive impacts on the steps towards study participation: awareness, education, consideration and site contact. Consistent data collection across case studies was a challenge due to limits of software and digital platforms, and/or local regulation.
Conclusions/Next steps: Social media is a useful tool for outreach when the content has local relevancy. Due to the digital divide, social media may not reach all communities and non-digital media remains an important tool.

EP0641

The role of community-led monitoring for quality health improvement in Nigeria

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Background: In the pursuit of ending HIV and AIDS by 2030, it has become evident that Communities hold the health systems accountable by empowering community members to monitor service delivery, identify gaps and implement solutions. Community-Led Monitoring (CLM), an intervention under Nigeria's Global Fund GC7 grant and led by the Network of People Living with HIV (NEPWHAN) is being implemented across 13 States in Nigeria. The strategy aims to improve the quality-of-service provision through routine community-level data collection, translate these data into actionable insights, and bring the information to the attention of decision-makers and advocate for changes in policy and practice.
Description: A cross-sectional descriptive study was conducted across the 13 states of Nigeria where community-led monitoring is being implemented from April to June 2024. Quantitative data was collected using the mobile application, community iMonitor, while qualitative data was from focus group discussions. Quantitative data was obtained from the backend of the app, exported and analyzed using IBM SPSS Statistics 23 while qualitative data was analyzed using inductive thematic analysis.
Lessons learned: A total of 8828 responses were recorded from the app and 6 focus group discussion sessions with 6 participants each were conducted across the 13 states. 71.6%, 13% and 9% of the responses were from PLHIV, Key Population; and adolescent and young persons (AYP) respectively.
From the iMonitor, the top three major challenges reported were access to mental health services 47.9%, access to legal services 44.8% and stock-out of condoms and lubricants 5.3%. The qualitative data focused on 4 themes which are barriers to treatment, quality of care, availability of commodities, gender and human rights.
The top three areas of challenges include lack of nutritional support, stock-out of condoms and lubricants, and lack of access to mental health and legal services.
Conclusions/Next steps: Continued monitoring, led by the community is a very important approach to enhancing person-centred care and improve service quality for both the persons living with HIV, the key and vulnerable population.
Addressing the identified issues through targeted interventions and engaging with key policymakers will be crucial in achieving epidemic control and ending AIDS by 2030.

EP0642

Providing psychosocial support through online community-based engagement program to empower the future of youth

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Background: In 2023, Adolescents and Young Adults (AYA), ages 15-24 years old, accounted for 53.6% of new global infections (WHO, 2023). In Indonesia, AYA accounts for 46.4% of total new infections (Ministry of Health Indonesia, 2023). As of December 2022, Indonesia's achievement toward triple 95s was 81-41-19.
Description: LAP is a non-profit organization supporting Children and Adolescents Living with HIV (CLHIV, ALHIV) in Indonesia. Since 2009, it has served over 250 beneficiaries, with ALHIV comprising 65%. Since 2022, LAP piloted Indonesia's first in-person and online support to foster positivity and improve ART adherence through community engagement.
In 15 years of service, many CLHIV supported by LAP have since reached the age of AYA. LAP's AYA, are critically vulnerable (LAP, August 2024):

1. 70% beneficiaries come from marginal socioeconomic background
2. 64.55% have lost one or both parents
3. Mortality rate is 14.98%; AYA accounts for 60%
4. 73% AYA have progressive AIDS, 30% suffer from disabilities
5. >40% of ALHIV has interruption or discontinuation of ART

Lessons learned:

1. Online community-based programs reach more beneficiaries who are geographically challenged. Within 2 years, the group grew from 8 to 69 participants
2. More than 30% AYA resumed ART, and 60% have improved adherence
3. 50% participated in life-skill education, 20% enrolled in leadership programs for peer group facilitators and influencers

Conclusions/Next steps: LAP's beneficiaries' profiles represent many CLHIV and AYA in Indonesia. Due to resource limited HIV care in Indonesia, coupled with marginal backgrounds, stigma, and discrimination, most AYA do not have adequate access to care and support. Many are unaware that they have HIV.
Virtual-based programs offer a promising solution to fill the blank space in HIV care across Indonesia. Building an online hub allows people to access information, support, and engage with peers conveniently while protecting privacy. LAP's community-based online peer engagement programs have better outreach, are less costly, and effectively enhance mental health and psychosocial support. Thus, peer engagement is an effective approach to fostering positivity and improving ART adherence for better living outcomes.

EP0643

Adapting community case management strategy to improve HIV treatment outcomes outside OVC sites in 2023: lessons learnt from the 'Sungani Bana' initiative in CDC supported provinces in Zambia

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Background: Children and adolescents living with HIV (C/ALHIV) in Zambia are disproportionately offtrack from achieving the UNAIDS goals of 95/95/95, with 72.8% of adolescents and young people (AYP) 10-24 years, living with HIV being diagnosed, 71.7% on antiretroviral therapy (ART) and 66.6% being virally suppressed. HIV testing, access to and retention in care for C/ALHIV are largely dependent on their caregivers. Unmet psychosocial and economic needs impact caregivers and subsequently the ability of C/ALHIV to adhere to their treatment.

The United States Centers for Disease Control and Prevention (CDC) Zambia demonstrated improved clinical outcomes of C/ALHIV receiving Orphans Vulnerable Children (OVC) case management. However, the program is only in seven of the 50 CDC supported districts. Therefore, in 2022, CDC Zambia adapted the OVC case management strategy to develop the "Sungani Bana initiative (SBI)". This initiative provides child-centered case management in non-OVC program districts, aiming to minimize barriers for C/ALHIV, and enhance their treatment outcomes. To assess the effectiveness of SBI, we analyzed interruption in treatment (IIT), viral load coverage (VLC), and suppression (VLS) after one year of implementation in 160 SBI sites across 30 districts.

Description: We identified community case workers and trained them in the SBI. Case workers established a trusting relationship with C/ALHIV ages 0-19 years and their families. Each case worker supported up to 20 C/ALHIV, through monthly home visits, appointment reminders, tuberculosis (TB) screening, nutrition assessment, disclosure counselling, adherence counseling, and linkage to other client need-based support services.

After one year of implementation, we analyzed IIT, VLC and VLS in 160 SBI supported sites using PEPFAR Program data for 2022 and 2023.

Lessons learned: Between October 2022 (pre-implementation) and September 2023 (post-implementation), IIT decreased from 3% to 1%, VLC increased from 79% to 84% and VLS increased from 93% to 95% in the 160 implementation sites.

Conclusions/Next steps: Community case management through the SBI yielded improved treatment outcomes for C/ALHIV. CDC Zambia will continue to scale up the model to all non-OVC sites to enhance treatment outcomes among all C/ALHIV.

EP0644

CekUpYuk.id: a community-driven digital tool addressing critical HIV & STI education and prevention gaps among men who have sex with men (MSM) in Indonesia

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Background: Indonesia faces a growing HIV epidemic among men who have sex with men (MSM), driven by the lack of basic sex education, societal conservatism, and stigma that hinder access to HIV prevention and care. CekUpYuk.id, developed collaboratively by community and clinical teams, addresses this gap by engaging MSM through personalised digital HIV risk-reduction interventions. The platform directs users to high-serving non-government sexual health clinics in Jakarta and Bali for acute HIV infection (AHI) testing under the Indonesia Intervention Study to Test & Treat People with Acute HIV Infection (INTERACT).

Description: CekUpYuk.id was co-designed by the INTERACT group and Yayasan Kasih Suwitno, a community organisation in Indonesia. We conducted a needs assessment through participatory workshops with MSM community groups in Jakarta and Bali to identify barriers and content preferences.

The digital platform integrates an interactive AHI algorithm for tailored risk assessments, educational modules (HIV testing, ART, PrEP, and STIs), and trust-building content (healthcare worker videos and community stories). CekUpYuk.id was launched in May 2024 and promoted via tailored posts on Instagram, TikTok, and X targeting Jakarta and Bali. We analysed user data, including risk assessments, social media engagement, and Google Analytics metrics.

Lessons learned: Between May-November 2024, CekUpYuk.id had 11,873 unique users and 14,650 sessions recorded, peaking in July (4,629 users and over 20,000 tracked actions). High engagement was recorded on 'STIs and HIV,' 'HIV Testing,' and 'Acute HIV Infection.' 1,680 indi-

vidual users completed the AHI-risk tool [1914 total assessments-752 (39%) among those under 25 years-old]; 80% (1,339) from Jakarta, 11% (185) Bali, and 9% (156) from other provinces. Of the users, 1,172 self-identified as male, 496 as female, 10 as non-binary, and 2 as transwomen. Posts garnered 117,242 TikTok views, 148,251 views on Instagram, and 435,000 impressions on X; reaching a combined Instagram and X following of over 30,000, driving peak user engagement.

Conclusions/Next steps: CekUpYuk.id engaged over 11,000 users and 1,600 individual risk assessments in five months, highlighting the unmet need for tailored digital HIV risk-reduction tools in Indonesia. Combining personalised risk assessments, community-driven education, and strategic social media outreach, the platform effectively addressed critical gaps in HIV/STI prevention and care for at-risk MSM.

EP0645

Catalysts of change: women's organizations driving HIV testing accessibility for pregnant women in remote areas of Lagos State

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Background: Ensuring equitable access to HIV testing and prevention services for pregnant women in underserved communities remains a pressing challenge in Nigeria. The Association of Lady Pharmacists (ALPs), a women-led professional organization, partnered with the USAID-funded Accelerating Control of the HIV Epidemic (ACE-6) project to deliver life-saving interventions to women in Makoko, a densely populated suburb of Lagos State with limited healthcare infrastructure. This study aims to determine the effectiveness of the intervention.

Description: The outreach targeted pregnant and breastfeeding mothers without access to antenatal services. The USAID-funded ACE-6 project, through a public-private partnership approach, provided education on HIV transmission, prevention, and treatment options. With informed consent, the project offered the following services to other stakeholders: HIV testing and linking positive cases to antenatal clinics and PMTCT.

Lessons learned: Key outcomes of this intervention include the identification of four HIV-positive out of the 43 pregnant women tested. ALPs also distributed "Mother Love (Mama)" packs containing essential baby and hospital items to the 43 pregnant women (comprising of young women and girls between the ages of 15 - 24 years and women), promoting preparedness for delivery and encouraging the uptake of maternal care services. The four positive pregnant women in their third trimester were successfully linked to PMTCT services, achieving a 100% linkage rate. They all had safe deliveries, and their babies accessed Nevirapine and Zidovudine suspensions. At the same time, their first exposed infant diagnosis (EID) (the staff at the primary healthcare centre collected samples within 24 hours of birth) was negative.

Subsequently, it necessitated activating HIV service at the primary health centre within walking distance of the community. ALPs paid for a year subscription to the Lagos State Health Insurance Scheme for HIV-positive women to access continued care.

Conclusions/Next steps: This model is a testament to the effectiveness of gender-focused, community-driven solutions in addressing critical health challenges, one woman at a time.

EP0646

Identifying emerging local trends to inform interventions: a qualitative study on condom use behavior among at-risk dancers in Madhesh province, Nepal

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Background: In fiscal year 2024, the Meeting Targets and Maintaining Epidemic Control (EpiC) project in Nepal reported sexually transmitted infection (STI) prevalence of 32% among the at-risk population in Madhesh province. An emerging trend was observed where entertainment groups (commonly called DJs) that employ at-risk women dancers were hired for religious and cultural celebrations.

Unprotected sex within and outside these groups may be associated with higher risk of STIs. This abstract outlines EpiC Nepal's study to understand and address the STI risk among at-risk dancers.

Methods: A phenomenological approach was used to explore the knowledge, experiences, and behavioral factors of dancers. Data were collected through 10 focus group discussions (FGDs) with 145 participants from eight districts (dancers: 77, operators: 12, owners: 36, "*malkins*" [at-risk agents who contract dancers to DJ events]: 20). Findings were thematically analyzed to identify common themes and patterns of risk behaviors.

Results: Participants reported moderate to low knowledge of HIV, STIs, and pre-exposure prophylaxis (PrEP). Dancers frequently engaged in unprotected sex with male owners, operators, or audiences. Eight (10%) dancers never used condoms; others used them occasionally. Reasons for low condom use were trust in partner's exclusivity, inconvenience, higher pay for condomless sex, unavailability, alcohol-related disinhibition, removing condoms during sex, and lack of knowledge on condom use for anal/oral sex. In condom demonstrations, only five

out of 15 (33%) randomly selected dancers performed correctly. In response, EpiC Nepal developed a condom negotiation wheel game and planned for creative events to address knowledge gaps.
Ten creative events were organized with the same groups after the FGDs, among which 57 (42%) perceived their HIV risk and were tested, with no positive results. Twenty-one (15%) were treated for STIs, 13 enrolled in PrEP, and five restarted PrEP. EpiC Nepal alerted DJ owners and *malkins* about the risks and arranged for outreach workers to deliver condoms at events.
Conclusions: EpiC Nepal will monitor emerging trends in different districts and at-risk population groups for early intervention against HIV and STIs. Monthly creative events will be restructured to foster regular meetups, enhance knowledge sharing, and facilitate HIV/STI prevention and testing.

EP0647

Revolutionizing HIV care for women: the power of person-centered differentiated models

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Background: Differentiated Service Delivery (DSD) models were developed to address the complexities of HIV care, including overburdened healthcare systems, limited access, and the diverse needs of people living with HIV (PLHIV). These models, endorsed by WHO and UNAIDS, emphasize person-centered care to achieve the UNAIDS 95-95-95 targets and Sustainable Development Goal 3.
This study evaluates the impact of a support group-led Facility ART Refill Group (FARG) and Community ART Refill Group (CARG) on viral suppression, retention in care, and quality of life among women living with HIV in a secondary health facility in South-West Nigeria.
Description: • Assess viral load suppression and retention in care among women engaged in FARG and CARG.
• Examine participants' experiences, focusing on benefits and challenges.
A mixed-methods approach was employed:
1. Quantitative Analysis: Retrospective review of patient records (TX_CURR, 2022) to assess viral suppression and retention.
2. Onsite Assessment: Vital signs (e.g., weight, BMI, blood pressure, blood sugar) and clinical indicators (e.g., viral load results, pill count) were measured during bi-annual refills and compared to baseline values.
Lessons learned: Outcomes from three service delivery models highlight the superiority of differentiated care:
• Community ART Refill Groups (CARG): 98% sample collection, 98% coverage, 97% viral suppression.
• Facility ART Refill Groups (FARG): 98% sample collection, 98% coverage, 98% viral suppression.
• No DSD: 82% sample collection, 76% coverage, 83% viral suppression.
FARG and CARG models demonstrated improved retention and viral suppression, showcasing the effectiveness of person-centered, community-linked interventions.
The onsite assessment showed that 99% of the women in CARG and FARG looked healthier and had better clinical outcomes than other women not assigned to a DSD model.
Conclusions/Next steps: This study affirms the transformative potential of DSD models in improving health outcomes for women living with HIV. Tailored care approaches achieved superior viral suppression (up to 98%) and retention rates (97–98%), fostering sustainable and patient-centered health systems. Scaling these models is essential for improving the quality of life for women living with HIV and their families, particularly in underserved settings.

EP0648

Perspectives on analytical treatment interruptions and prospects of an HIV cure amongst people living with HIV in Singapore

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Background: Singapore has yet to conduct an HIV cure trial, and studies involving analytical treatment interruption (ATI) may face scepticism from the community. This study aims to understand the perspectives of people living with HIV in Singapore regarding participation in functional cure research with ATI.
Methods: Participants were recruited from an HIV care facility in Singapore through study advertisements at study sites. The self administered survey collected demographic information, participants' views on ATI and HIV cure, their acceptability of ATI, and tolerance for CD4 decline and viral load fluctuations during ATI. Descriptive analysis, univariate analysis, and multivariable logistic models were performed to identify barriers and motivational factors influencing cure study participation.

Results: Of the 200 participants, 116 (58%) indicated they were likely to participate in a cure trial, while 84 (42%) were not. A majority, 94.5% (189/200), had never participated in an HIV clinical study previously. No significant differences in age, gender, sexuality, or duration of HIV diagnosis were observed between those likely to participate and those unlikely to do so. Key factors predicting participation included having at least a tertiary education (aOR 2.99, 95% CI 1.33-7.06) and identifying altruistic motivations, such as advancing research or benefiting others and oneself (aOR 2, 95% CI 1.57-2.61).
Participants less tolerant of potential increases in viral load or decreases in CD4 count during an ATI study were 23% less likely to participate (aOR 0.77, 95% CI 0.67-0.87).
The frequency of monitoring, availability of self-testing, and home visits did not significantly influence the likelihood of participation. The primary concern among participants was the risk of HIV transmission during an ATI study, with 82.5% (165/200) expressing concern.
Conclusions: Those more likely to participate in a cure trial involving ATI tend to have higher education, altruistic motivations, and fewer concerns about viral load or CD4 count outcomes. Increased outreach and education are vital to engage the community, build trust, and foster support for future ATI studies and HIV cure research.

EP0649

Applying community-led monitoring to community engagement: a person-centered approach to improving HIV service delivery and quality of care across 21 African countries

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Background: Applying Community – Led Monitoring (CLM) to Community Engagement (CE) improves both the quality and efficiency of Differentiated Service Delivery (DSD) HIV services. Community Engagement (CE) is central to the success of DSD as it is a people-centered approach. However, there is a lack of rigorous and robust tools to monitor meaningful engagement of Recipients of Care (RoC), highlighting the need for CE monitoring tools to track meaningful engagement.
Description: The 18-indicator quantitative excel based CE tool was rolled-out across 21 Community Advocacy Network (CAN) country partners. CE was monitored retrospectively for the period 1 June 2022 to 31 May 2023 across the policy, program, and community levels of engagement as well as across the design, implementation, monitoring and evaluation areas of engagement. The level of engagement was assessed using a six – color coding system ranging from dark green (81-100%) to grey (0%).
Lessons learned: CE scores have progressed from 57% to 69% between 2022 and 2023 equivalent to a 21% increase. Levels of CE have risen by 70% in countries tracking CE since 2022. In 2023, 69% of CE scores were satisfactory or meaningful engagement (61%-100% achievement rate) as compared to a 49% satisfactory or meaningful engagement rate in 2022. Uganda, Burundi, Cameroon, Malawi and Senegal progressed by more than 40% in 2023 within the no current engagement domain (red: 0-40%).
Five countries (Rwanda, Liberia, Zimbabwe, South Africa, and DRC) scored meaningful engagement in 2023 (dark green 81-100%) as compared to only one country (Liberia) in 2022. A 35% increase in the policy level in 2023 was a result of meaningful engagement during the design of DSD policies, while the 18% increase in 2023 within the programme level was due to the implementation of the CQUIN Capability Maturity Model self-assessments. Meaningful CE in DSD across thematic working groups and demand creation contributed to a 10% increase across the community level in 2023.
Conclusions/Next steps: CLM serves as a crucial baseline for meaningful CE and quality DSD programs. Using CLM to monitor CE improves the relevance, acceptability, and effectiveness of DSD programs for sustained demand creation.

EP0650

Bridging gaps between communities and science – Lessons from Uganda's Cross-CAB Networking Forum

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Background: The annual Cross-CAB Networking Forum has since 2005 brought together at least 130 Community Advisory Board (CAB) members from eleven HIV research institutions in Uganda i.e. *Africa Medical & Behavioral Sciences Organization (AMBSO), Makerere University-Walter Reed Project (MU-WRP), Makerere University-John Hopkins University (MU-JHU), UVRI-IAVI HIV Vaccine Research Program, Infectious Diseases Institute (IDI), Rakai Health Sciences Program (RHSP), Joint Clinical Research Centre (JCRC), Baylor-Uganda, Mildmay-Uganda, The AIDS Support Organization (TASO) and MRC/UVRI & LSHTM Uganda Research Unit* for information sharing, networking, capacity building, advocacy and community mobilization. Stakeholders from relevant bodies including Uganda National Council of Science & Technology, ministry of health, National Drug Authority and AVAC have always attended the yearly event. Forum business is spearheaded by the Steering Committee of 11 CAB Liaisons and the Executive Committee composed of 11 CAB members drawn from the participating institutions.

Description: The Forum is hosted rotationally allowing each member institution to host an event preferably in their area of operations. While the Forum agenda is 70% generated by CAB members, the Institutions put together a basket-fund to meet accommodation, meals and other expenses. Participants include PLHIV, key populations, priority populations, former research participants and community gatekeepers including political and religious leaders. CABs present on areas such as community mobilization strategies, defining research terms, best practices and myths/misconceptions from communities.

Lessons learned: The Forum has helped in not only mitigating prospective research-related barriers but also in designing and informing research priorities for the country. It has also played key roles in building/strengthening collaboration between scientists and communities; making it a critical enabler for community participation in research. Furthermore, the basket-fund is an illustration that research implementers can fund their own programs and challenges before looking elsewhere.

Conclusions/Next steps: The Cross-CAB Networking Forum remains crucial in building research-competent communities in the country. It also provides both formal and informal opportunities of learning, networking, capacity building and advocacy which are key fostering and accelerating country-based approvals for proven products.

EP0651

Assessment of HIV treatment knowledge among People Living with HIV (PLHIV) in South-South Nigeria

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Background: HIV treatment literacy among people living with HIV (PLHIV) is associated with optimal antiretroviral therapy (ART) adherence and treatment outcomes. However, there is limited data on HIV treatment knowledge among PLHIV receiving ART in Southern Nigeria.

This study assesses HIV treatment knowledge among PLHIV receiving ART in Akwa Ibom and Cross River States, Southern Nigeria.

Methods: This cross-sectional study included PLHIV (≥18 years) receiving ART at 53 high-volume PEPFAR/USAID-supported health facilities in Akwa Ibom and Cross River. Data was collected in February 2024 using a 4-question short-answer questionnaire that assessed client knowledge of HIV viral suppression, undetectable viral load, differentiated service delivery (DSD) models, and antiretroviral resistance. Respondents' data included age (18-24, 25-49, ≥50), sex, education (none, primary, secondary, or tertiary), occupation (unemployed, student, or employed), DSD model (Facility-based, Community-based, or none) and ART duration in years (<5, 5-9, 10-14, ≥15). Clients were adjudged to have good knowledge if they answered two questions (50%) correctly (ie stated key terms in the standard definition). Descriptive statistics summarised client characteristics, and associations between knowledge levels and demographic variables were tested using Chi-square.

Results: In total, 1,995 clients (60.7% [1,212/1,995] female) with a mean age of 38.3 (SD±11) years were assessed. Majority (52.1% [1040/1995]) were on ART for >4 years, 57.1%, (1140/1995) were on Facility-based DSD, 59.0% (1178/1195) had secondary education level, and 64.0% (1276/1995) were employed.

Overall, 97.2% (1940/1955) of clients had good knowledge; the highest and lowest proportion of correct responses were for defining "HIV viral suppression" (97.3% [1941/1995]) and "Antiretroviral resistance" (67.9% [1355/1995]) respectively. Good knowledge was higher among those with tertiary education (99.1%, p<0.01) or who were in DSD (97.6%, p<0.01), lower among those aged ≥50 years (94.4%, p<0.01), but comparable by sex (Females: 96.9% vs Males: 97.7%, p=0.32), duration on ART (<5 years:97.2%, 5-9 years:97.1%, 10-14 years:97.1%, ≥15 years:100%, p=0.54), and occupation (Unemployed:96.5%, student:98.2%, employed:97.4%, p=0.41).

Conclusions: Most PLHIV receiving ART in this setting had good knowledge of HIV treatment, particularly those with tertiary education or who were on DSD. Client-centered interventions to improve knowledge, especially on antiretroviral resistance and among elderly clients, are recommended.

EP0652

Exploring pay-it-forward initiatives for HIV care and retention among adolescent and young adults living with HIV (AYAH) in Kenya

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Background: Adolescents and young adults living with HIV (AYAH) face significant barriers that limit their engagement in HIV care services. Pay-it-forward (PIF) is a social practice where a community makes a donation to cover the opportunity costs of using a health service, and thereafter, the recipient is asked to donate to others in their community. Although this approach has demonstrated effectiveness in promoting behaviours people value but often defer (e.g. cervical cancer screening), the potential for PIF to enhance engagement in HIV services among young people in Kenya is not known.

Methods: In-depth interviews were conducted between March and November 2023 among participants enrolled in the Adaptive Strategy for Prevention and Treatment of Lapses in Retention in Adolescent HIV Care (A4A) study. We purposively selected 20 AYAH aged 14-24 receiving conditional cash transfers (CCT) due to poor engagement in care. Semi-structured interview guides were used to explore participant perspectives on PIF initiatives, including preferred modes of support, contribution amounts and participation determinants. The interviews were audio-recorded and transcribed verbatim into English and analyzed using thematic analysis.

Results: 57% of the participants were female, 47% were <18 years and a majority (87%) had at least a high school education. Three main themes emerged: motivation to participate in PIF initiatives, PIF mechanisms and PIF preferences for intervention delivery. AYAH were motivated by their commitment to prescribe to sociocultural norms that embrace kindness, generosity, and reciprocity, along with their desire to create and inspire positive change. Lack of employment was a significant barrier to participation in PIF initiatives.

Nonetheless, those without money or jobs were willing to offer their time or items such as clothing and food. Two implementation approaches were identified: monetary and non-monetary, with monetary contributions being preferred.

Conclusions: Pay-it-forward mechanisms are feasible and promising for advancing HIV services among young people. Constraints related to regular income sources exist, but the challenging access to resources may augment the social effects of generosity. Empirical testing of PIF mechanisms for HIV prevention and care are urgently needed, particularly among AYAH in Africa.

EP0653

Mock parliament as a tool for policy stimulation in comprehensive sexuality education (CSE) advocacy: experience from young people's program (YPP) in Sierra Leone

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Background: Although sexual and reproductive health is crucial to our overall well-being, discussions around sexual matters and related information are often treated as taboo or spoken about in hushed tones in many parts of Africa, including Sierra Leone. The secrecy around information regarding sexual matters not only allows the spread of false information but also increases vulnerabilities among young people. Only a quarter of schools in Sierra Leone offer CSE, prompting this advocacy intervention to raise awareness and empower young people to speak for themselves.

Description: Sierra Leone has been recording high HIV incidence among young people and this reality calls for a deliberate action to provide age-appropriate, culturally sensitive, scientifically accurate and non-judgmental information about sex and relationships. As part of this effort, AIDS Healthcare Foundation (AHF) through her young people's program have been championing access to CSE and organized a mock parliament in 2024 on the floor of the parliament where about 160 young persons divided across 2 groups debated on the motion of whether to continue to have CSE incorporated into 7 subjects or have it as an examinable standalone subject. The session was overseen by the Deputy Speaker, televised across major stations and have in attendance several members of the parliament.

Lessons learned: Despite the inclusion of CSE in the curriculum, the feedback from young people was that not all schools are currently implementing it, and it has also not been effective in the current model of incorporating it into several subjects. The debate by the young people prompted the parliament to write the ministry of education to consider having CSE as a standalone subject. This request was subsequently approved and CSE should now become an examinable standalone subject. This mock

parliament gave the young persons an opportunity to appreciate policy processes and parliamentary proceedings while also enabling them to directly address issues affecting them by advocating for a policy change regarding how CSE is being taught in schools.

Conclusions/Next steps: Providing young people with platforms such as the mock parliament can be an effective tool for young people to advocate for policy changes that affect their wellbeing.

EP0654

Breaking the silence: PLHIV at the same time TB survivors' experiences and the critical need for enhanced psychosocial support

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Background: HIV) remains a major public health concern, affecting millions of people worldwide. Beyond access to Ant Retroviral therapy People Living with HIV (PLHIV) face significant psychosocial challenges including, stigma, anxiety, depression and social isolation. It is from the same that they experience offer valuable insights into addressing these challenges.

Objective: To Explore PLHI who are TB survivors and their psychosocial experiences, identify gaps in support and inform effective strategies to improve their quality of life.

Methods: A mixed-methods approach combined surveys, focus groups, and in-depth interviews with 200 PLHIV who were TB survivors and 100 family members in the 11 Regional Referral Hospitals and 1 National Referral Hospital in Uganda and Data were analyzed using thematic analysis.

Results: Findings revealed:

1. High levels of Stigma, anxiety, and depression among PLHIV who have TB
2. Stigma, Anxiety and depression persisting beyond treatment completion.
3. Social isolation and loneliness exacerbated by TB-related stigma.
4. Limited access to psychosocial support services.
5. Need for culturally and Religious sensitive support interventions.

Conclusions: PLHIV who have been diagnosed with TB TB survivors' and families require comprehensive psychosocial support to cope with the disease

Recommendations include:

1. Integrating psychosocial support into TB care services.
2. Encourage formation of community-based support groups for TB survivors.
3. Training healthcare providers in psychosocial care and support.
4. Public awareness campaigns to reduce stigma.

Implications:

Enhancing psychosocial support for TB survivors can improve long-term health outcomes, well-being, and reintegration into society.

EP0655

Strengthening community education in HIV cure research: insights from Latin America and the Caribbean

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Background: Lessons from HIV prevention research underscore the importance of early community education to support study implementation. With large-scale HIV cure trials yet to be conducted in Latin America and the Caribbean (LAC), this study explored HIV cure research and advocacy needs among civil society (CS) in the region.

Methods: A one-time web-based survey was made available in Spanish, English, Portuguese and French between March and April 2024. Conducted by LAC-Cura, the Latin America and the Caribbean HIV Cure Consortium, the instrument screened for CS perceptions of HIV cure research knowledge, facilitators and barriers to trial participation, and educational preferences.

Data was summarized using descriptive statistics. Percentages were calculated based on valid responses to each question.

Results: A total of 365 responses from CS members across 24 LAC territories were received. Most participants reported low knowledge about HIV cure related-issues: funding (n=271; 80.6%), community engagement modalities (n=246; 74.4%), ongoing studies (n=242; 72.4%), new cases (n=228; 69.1%), research challenges (n=223; 61.4%) and strategies (n=198; 57.6%).

Low knowledge was attributed primarily to lack of visibility of HIV cure, (n=262; 71.8%), limited training opportunities (n=243; 66.6%), and low relevance of HIV cure on current agendas (n=204; 55.9%).

Key factors discouraging for trial participation included analytical treatment interruptions (n=240; 70.8%), logistical inconveniences (n=220; 67.2%), and fear of side effects or intervention invasiveness (n=218; 66.2%). Encouraging factors included receiving detailed information (n=246; 73.2%), contributing to the advancement of science (n=232; 70.5%) and benefiting the community (n=229; 70.1%).

Primary sources of information on HIV cure were social media (n=240; 65.8%), websites of HIV-related organizations (n=215; 58.9%), and participation in HIV-related networks and communities (n=197; 54.0%).
Conclusions: Findings underscore the need to strengthen community education on HIV cure research across LAC. Addressing knowledge gaps, mitigating barriers and amplifying facilitators for trial participation are critical steps. LAC-Cura should prioritize partnerships with CS organizations to strategically disseminate information online, fostering community engagement and preparing for future trial implementation in the region.

EP0656

Community-engaged approaches to strengthen Advanced HIV Disease (AHD) care: lessons from THRIVE

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Background: Advanced HIV Disease (AHD) remains a significant challenge in addressing the HIV pandemic, especially in low-resource settings. AHD-related mortality is prevented by timely diagnosis, treatment and supportive care. To enhance AHD awareness and improve care, community engagement is critical. The Unitaid-funded, CHAI-led THRIVE Consortium project, with AFROCAB leading the community component, implemented a participatory approach to sensitize communities and strengthen AHD care in five countries, leveraging the expertise of THRIVE Community Advisory Board (CAB) members and partnerships with Ministries of Health.
Description: THRIVE CAB members in five THRIVE countries facilitated a series of community-centered trainings focused on AHD. These trainings targeted networks of people living with HIV (PLHIV) including caregivers, healthcare workers and other stakeholders, emphasizing knowledge dissemination, advocacy and capacity building.
Through participatory methodologies, community members were brought up to speed on AHD care, including key aspects of prevention, early diagnosis and treatment regimens. Collaboration with Ministries of Health ensured alignment with national HIV strategies and sustainability. The trainings utilized an interactive model, engaging the lived experiences of PLHIV to inform session content and increase mutual confidence. Participants engaged in activities and discussions promoting shared learning and a deeper understanding of AHD-related challenges and solutions.
Lessons learned:
1. Enhanced Community Capacity: Communities reported increased confidence in addressing AHD issues, advocating for better care and supporting peers.
2. Strengthened Health Systems: Health facilities demonstrated improved readiness to provide AHD care, including availability of diagnostic and treatment commodities.
3. Collaborative Success: Partnerships with Ministries of Health and active community involvement ensured broader acceptance and impact of the initiative.
4. Barriers Persist: Gaps and resources in infrastructure highlighted the need for sustained advocacy and investment.

Conclusions/Next steps: The participatory approach employed by the THRIVE CAB members demonstrated the potential for change in community engagement addressing AHD. Building capacity of PLHIV networks and healthcare systems created a foundation for improved AHD care. Moving forward, there is a need to scale up efforts to address systemic barriers and monitor long-term outcomes to ensure comprehensive AHD management and reduce preventable AHD-related deaths.

EP0657

Characterising key concerns from communities on upcoming HIV prevention products: the case of the Dual Prevention Pill in Zambia

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Background: In recent years, the Zambian government has shown commitment to expanding choice for HIV prevention to the people by prioritising the introduction of new prevention tools like the Dual Prevention Pill (DPP) - which simultaneously prevents HIV acquisition and pregnancy. However, limited community awareness and engagement often leads to myths and misconceptions that may hinder product uptake. Early and inclusive community engagement is critical to address concerns, enhance understanding, and ensure successful product uptake once available.
Methods: Between July and December 2024, a series of consultation meetings were held to gather insights and concerns about the DPP. Participants included 67 healthcare workers, 71 adolescents and young people, 37 community health workers and 39 female sex workers in Kitwe and Lusaka. Discussions were analysed using a narrative analysis approach to identify concerns regarding the DPP.
Results: Key concerns raised across the groups included: how quickly the product will be available; side effects; missed pills; access platforms; availability for adolescents under 16; STI protection; time to effectiveness; post-discontinuation conception; suitability for breastfeeding

mothers; and stock sustainability in health facilities. These concerns are integral to ongoing policy discussions with government decision-makers, shaping strategies for the effective implementation of the DPP in Zambia.

Conclusions: Findings reinforce the importance of early and broad community engagement in the introduction of new HIV prevention products. Addressing these concerns is important not only for understanding and acceptance but also for ensuring that products like the DPP can be effectively adopted and sustained in Zambia.

EP0658

AIDS or advanced HIV disease? Results from a multi-stakeholder global DELPHI process to gain consensus on terminology

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Background: "Advanced HIV Disease" (AHD) was defined in 2017 to distinguish between those established on antiretroviral therapy – and those with additional care needs. The global HIV community have asked for clarity on the use of AHD and AIDS in World Health Organization and other global guidelines. This study aimed to investigate global consensus on the use of both terms.

Methods: A landscape analysis was presented at *AIDS2024* to workshop statements for a two-round Delphi process. 22 statements were developed, divided into sections corresponding to feelings associated with each term, overall usage and scenarios for usage. Surveys were conducted in English, Spanish, French and Portuguese. Round-one recruitment was purposive and open (Oct 24-Nov 24), targeting community-sector and geographic regions with greatest HIV burden. Round-two (Dec 24-Jan 25) was restricted to round-one participants.

Participants ranked levels of agreement with statements (1-7 Likert). Predefined consensus thresholds were ≥75% participant agreement; statements with <25% agreement were rejected. Remaining statements were re-ranked in round-two. Explanatory qualitative analysis was conducted after consensus assessment.

Results: There were 646 eligible responses in round-one; round-two participation-rate was 45% (292/646). African-region participation was greatest (47%, 288/618), followed by Americas (29%, 179/618), with primarily Spanish speakers from this region (60%, 107/179). Half (48%, 303/636) worked in civil society or as frontline workers. Almost half (44%, 287/646) identified as people living with HIV (PLWHIV).

Six statements reached consensus and two were dropped. Consensus was reached for use of AHD to: differentiate levels of care (83%); communicate to PLWHIV about disease (78%) and stage of diagnosis (81%); inform and educate the public (77%); and monitor HIV-programme success (77%). There was borderline consensus that AIDS is always stigmatising (75%). No consensus was reached on scenarios for use of AIDS or outright rejection of the term. More respondents agreed AIDS (65%) was a useful term for advocacy than AHD (56%). Qualitative analysis identified AIDS as intrinsically stigmatising, associated with death and trauma, yet this stigma communicated urgency of action.

Conclusions: There is sufficient consensus to support the use of AHD in clinical guidelines; there was no consensus on continuing or discontinuing use of the term AIDS.

EP0659

Adolescent-driven podcasting for HIV prevention: engaging communities to address barriers in sexual health education

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Background: Adolescents in Nigeria face significant barriers to accessing comprehensive sexual education (CSE), exacerbated by stigma and cultural taboos. These challenges are particularly pressing for adolescent girls, limiting their knowledge of sexual and reproductive health (SRH) and HIV prevention. InspireIT, an Africa REACH grantee, responded to these gaps by developing an adolescent-owned podcast, created in collaboration with the Ministry of Health in Imo State, Nigeria.

The podcast aimed to dismantle stigma, foster community dialogue, and empower adolescents with life-saving information.

Description: Using a participatory approach, InspireIT conducted semi-structured interviews with adolescent girls to identify gaps in knowledge and barriers to accessing SRH education. This input guided the design of podcast episodes, focusing on relatable narratives and evidence-based information about HIV acquisition, sexually transmitted infections (STIs), and teenage pregnancy.

Community members and stakeholders were engaged throughout the process, ensuring cultural relevance and broad acceptance. Data collection included podcast analytics, user feedback, and follow-up interviews with participants to assess impact.

Lessons learned: The participatory methodology contributed to the success of the initiative, as adolescents felt ownership of the content and actively engaged with the material. The podcast increased awareness of HIV prevention and other SRH topics, reduced stigma, and created a space for open dialogue within communities. Stakeholders, including educators and parents, noted the value of integrating community-driven approaches to CSE, particularly in regions where traditional systems fall short.

Conclusions/Next steps: InspireIT's adolescent-driven podcast demonstrates the transformative power of participatory approaches in addressing barriers to SRH education. Through fostering community engagement and empowering young people as co-creators, this initiative not only enhanced knowledge and awareness but also inspired the development of Red Ribbon, a digital health platform offering comprehensive SRH resources to adolescents.

EP0660

Enhancing community engagement in HIV prevention clinical trial design: insights from CASPR's Clinical Trial Design Academy

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Background: Community Engagement (CE) has been instrumental in shaping HIV prevention research, but its influence on clinical trial design remains underexplored. To address this gap, the Clinical Trial Design Academy, supported by Coalition to Accelerate & Support Prevention Research (CASPR), aims to empower African-based advocates with the knowledge and skills to more vigorously shape next-generation clinical trial designs.
Description: CASPR identified 20 advocates from nine African countries based on their interest in clinical trial design. The program began with three foundational virtual workshops focusing on
1. Fundamentals of HIV prevention clinical trials,
2. Innovative trial designs in the PrEP era, and;
3. Regulatory guidance for externally controlled trials.
An in-person workshop followed, where participants consolidated learnings and priorities. Participants engaged with researchers, statisticians, and scientists, exploring new trial design approaches, such as identifying and using appropriate active controls, and use of hypothetical placebo measures such as background HIV incidence data, recency assays, registrational cohorts, and biomarkers. Participants also deliberated on the implications of conducting prevention trials in the context of choice of existing, effective HIV prevention products.
Lessons learned: The Academy identified key community priorities for the design and conduct of future HIV prevention trials;

- Novel trial designs must meet rigorous scientific validity standards while addressing critical factors, including drug-drug interactions, and gathering data on pregnancy and lactation. Pharmacokinetic studies should explore protection onset, forgiveness, and drug tail effects.
- Trials must represent diverse geographies and populations, including people who inject drugs , and assess acceptability, choice, and persistence.
- Trials should reflect the principle of choice, offering product options in different phases of research including during, and after trials.
- HIV prevention trials must prioritize access, equity, and community relevance. No product should start efficacy trials without a clear plan for post-trial manufacturing, pricing, and equitable access.

Conclusions/Next steps: The Academy demonstrated the potential of CE in HIV prevention clinical trial design. By equipping advocates with tools to meaningfully contribute to research, the Academy fostered collaboration between communities, researchers, and regulators. In 2025, the Academy will launch an online resource hub to provide advocates with real-time information and tools for continued engagement and advocacy.

EP0661

Clinical outcomes associated with the "Newly Admitted Care Program" (NACP) applied to people living with HIV in a Clinic in Mexico City

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Background: Antiretroviral therapy (ART) improves life expectancy and decreases the incidence of advanced disease in people living with HIV (PWH). However, important challenges remain for successful long term HIV care. The *Newly Admitted Care Program* (NACP) was implemented and offered to all newly enrolled individuals into the INCMNSZ HIV clinic since 2015 as a local client-centered care initiative. Individuals participated in NACP by choice, providing initial psychosocial and mental health assessment with a psychoeducation session.
We aimed to evaluate clinical outcomes (HIV-related hospitalization, loss to follow-up (LTFU), treatment suspension (TS), virologic failure (VF) and mortality) among PWH who participated in NACP and those who did not (non-NACP).
Methods: We performed a retrospective cohort study in PWH from a single center in Mexico City from 2015 to 2023, including all individuals in both groups from their enrollment up to their last available visit. Clinical and laboratory outcomes were evaluated. Adjusted models were performed to identify factors associated with LTFU and mortality.
Results: We included 758 participants: 387 (51.1%) in the NACP group and 371 (48.9%) in the non-NACP. NACP individuals have a median follow-up of 58 months vs. 31 in non-NACP (RIQ 58-104 vs. 7-67; p<0.001). NACP participants were younger (mean age 32 vs. 37 years, p=0.001), were more likely to be MSM (78% vs. 70.1%, p=0.042), and had a higher educational level (34.1% vs. 25.3%, p=0.014).
There were no differences between groups regarding proportion of male sex (p=0.126), median CD4 count (p=0.37) or AIDS-defining events (p=0.084) at enrollment. No differences were found in TS and VF between groups. The NACP group experienced significantly lower frequency of hos-

pitalization (21.9% vs. 32.6%, p=0.01), LTFU (10.9% vs. 27.8%, p<0.001), and mortality (3.4% vs. 8.9%, p<0.001). Adjusted analysis found an independent association for NACP participation with reduced risk of mortality (OR=0.40 [95% CI=0.20-0.80]) and LTFU (OR=0.32 [95% CI=0.22-0.49]).

Conclusions: Despite similar virological and immunological characteristics at baseline, those who participated in NACP experienced fewer unfavorable outcomes, highlighting the importance of client-centered care programs in improving health outcomes for PWH.

EP0662

Operationalizing sexuality education in Uganda: lessons learned from Peer To Peer Uganda's implementation

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Background: In response to gaps in sexuality education, Peer To Peer Uganda (PEERU) has been at the forefront of operationalizing the National Sexuality Education Framework (NSEF) in Uganda. The initiative seeks to equip adolescents, and young people with knowledge and skills to make informed decisions about their sexual and reproductive health (SRH), reduce stigma surrounding HIV, and foster a supportive environment for HIV prevention, treatment, and care. The program targets schools and communities, emphasizing inclusivity and youth-led advocacy to address cultural sensitivities and systemic barriers.

Description: Since 2022, PEERU has implemented this initiative in rural and peri-urban schools across Uganda. The program focuses on capacity building for teachers, parents, and local leaders, integrating the National Sexuality Education Framework (NSEF) into school curriculums, and addressing SRH topics such as HIV prevention, menstrual health management, and gender-based violence. Over 79 schools, 500 teachers, and 1,200 parents have been engaged through training, community dialogues, and sensitization meetings like the Parents and Teachers Associations (PTA) . Activities include the development of culturally sensitive teaching materials, interactive sessions with students, and advocacy campaigns targeting policy alignment.

Lessons learned:

- Community engagement is critical to addressing misconceptions and fostering acceptance of sexuality education.
- Parental involvement through Parents-Teachers Association (PTA) meetings strengthens the program's sustainability and builds a supportive home environment for students.
- Teachers require continuous capacity building and support to confidently deliver age-appropriate sexuality education.
- Aligning program content with national policies ensures institutional backing, reducing resistance at the implementation level.
- Monitoring and evaluation tools tailored to track attitudinal and behavioral changes among students and stakeholders are essential for demonstrating impact.

Conclusions/Next steps: Operationalizing sexuality education in Uganda has highlighted the potential for school-based programs to drive informed decision-making and reduce vulnerabilities to HIV among adolescents. Moving forward, PEERU plans to scale up the initiative to more schools and districts, integrate digital learning tools for wider reach, and strengthen partnerships with government bodies and civil society.

The insights gained contribute to global efforts in achieving better HIV prevention and SRH outcomes for young people, especially in resource-constrained settings.

EP0663

Enhancing PrEP literacy through AI-assisted visuals: a cost-effective approach for community engagement

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Background: Pre-exposure prophylaxis (PrEP) is a proven method for preventing HIV transmission, yet its uptake is hindered by gaps in awareness and accessibility, especially among marginalized populations, such as people living with HIV, gender-diverse individuals, and men who have sex with men (MSM).

AI-assisted visuals offer a novel and cost-effective approach to enhance public education and knowledge retention about PrEP. This project aimed to address gaps in awareness and accessibility of PrEP.

Description: Conducted in a community setting, this advocacy project engaged 65 participants, including people living with HIV, gender-diverse individuals, MSM, and community stakeholders working on HIV/AIDS prevention. The project employed AI-assisted visuals to convey key messages about PrEP. These visuals were designed to be visually appealing, easily understandable, and accessible. Participants were exposed to these visuals during the project period, and their ability to recall and verbalize information was assessed.

Responses were categorized into three groups: those recalling all three aspects (access, importance & use), those recalling two aspects (access & importance), and those recalling only access-related information.

Lessons learned: The immediate outcome was monitored through recall and verbalization of information which demonstrated that AI-assisted visuals are effective in enhancing knowledge retention. We were able to see that:

- 48 participants (73.84%) were able to recall and verbalize all three aspects.
- 13 participants (20%) recalled information about access and importance.
- 4 participants (6.15%) recalled only access-related information.

These insights highlight the potential of AI-assisted visuals as a cost-effective and impactful tool for public education in marginalized communities. The visually engaging format facilitated information retention and accessibility, making it a best practice for improving health

literacy in similar contexts. The major lesson we learnt is that health literacy tools with growing and advancing technology can become much easier to create, are becoming less time consuming and much more cost effective than ever.

Conclusions/Next steps: The project underscores the importance of leveraging AI-assisted visuals to enhance awareness and accessibility of PrEP. This innovative approach can significantly contribute to HIV prevention efforts by improving knowledge retention and empowering marginalized populations to access preventive healthcare services.

EP0664

Words matter: co-producing the PORADA HIV disclosure decision aid for older adults in Ukraine

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Background: Older people with HIV (OPWH) in Ukraine face unique challenges in disclosing their HIV status due to pervasive stigma and intersecting vulnerabilities, such as substance use disorders (SUD). The humanitarian crisis caused by the ongoing war further exacerbates these challenges.

In response, the PORADA intervention (Pursuing Optimal Results over Aging via Decision Aid) was developed as a structured, culturally tailored tool to support informed decision-making about disclosure. This intervention considers the complex realities of a war-torn country and aims to reduce decisional conflict while promoting client-centered disclosure aligned with personal values and goals.

Description: Using the ADAPT-ITT framework, the intervention was co-produced with OPWH (as peer consultants), HIV physicians, social workers, and psychologists. Initial development incorporated qualitative findings and feedback from four focus groups (two with OPWH and two with HIV clinicians) to ensure relevance and usability. A pilot of four sessions was conducted with two facilitators to assess PORADA's feasibility and acceptability.

The paper-based Decision Aid includes tools for systematically weighing the pros and cons of disclosure, guided exercises for planning disclosure conversations, real-life examples tailored to Ukrainian OPWH experiences, and techniques for addressing challenges such as stigma and building supportive networks.

Implementation will be supported by a detailed facilitators guide, ensuring confidentiality and consistency in delivering the intervention by social workers and OPWH peers to participants.

Lessons learned: The co-production process underscored the critical role of language and terminology in creating a culturally sensitive tool. For example, while "status disclosure" is neutral in English, Ukrainian participants perceived it as coercive, requiring careful adjustments to convey neutrality. Refining phrasing to resonate with the audience fostered trust and engagement, ensuring the tool was empowering rather than directive.

Conclusions/Next steps: The PORADA intervention underscores the value of participatory design in developing tailored decision aids. The next step involves implementing the intervention for OPWH at Kyiv City Clinical Hospital No. 5 by integrating the Decision Aid into routine care and gathering data on its effectiveness to inform further broader adaptation of the approach for similar settings, addressing the unique challenges faced by aging OPWH.

EP0665

Re-engaging lost to follow-up to antiretroviral (ARVs) care: a community-driven tracking initiative to improve continuity of care in Rwanda

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Background: Despite Rwanda maintaining an HIV prevalence rate below 3% (RPHIA, 2020) and achieving a 97.5% antiretroviral therapy (ART) coverage rate, a small yet significant proportion (2.5%) of individuals have discontinued ART, posing challenges to achieving UNAIDS' 95-95-95 targets. The "Back to Care Project," launched in June 2024 by the AIDS Healthcare Foundation (AHF) in collaboration with the Rwanda Network of People Living with HIV (RRP+), aimed to re-engage individuals lost to follow-up (LTFU) and improve ART adherence.

Description: This one-year project, conducted between October and December 2024, targeted four health facilities in Kigali city—Remera, Kagugu, Kacyiru, and Kinyinya, with LTFU cases totaling 275 (99, 70, 59, and 47, respectively).

The initiative involved:

1. Training 4 ARV service social workers, 4 facility heads, and 121 peer educators (PEs) on LTFU tracking methods,
2. Facilitating regular follow-ups and coaching for PEs, and;
3. Fostering trust-building interactions between PEs, health workers, and LTFU people living with HIV to address systemic barriers such as stigma and financial constraints.

Lessons learned: By integrating online tools and SMS reminders, the tracking program in Kigali serves as a great example of how to successfully re-engage individuals who have been lost to follow-up on ARVs, improving medication adherence and continuity of care. Data safety is given top priority in this community-centered approach through confidentiality, secure storage, and access controls based on roles.

Training for staff as well as regular safety reviews help to ensure that sensitive data is handled ethically. The approach has effectively re-engaged 17 people living with HIV within three months including 8 women and 9 men

through integrating social health workers, peer educators and support groups, and developing long-lasting connections.

Conclusions/Next steps: Through efficiently re-engaging individuals who were lost to ARV follow-up, back to care project in Rwanda has improved adherence, resolved treatment gaps, and improved health outcomes, the program has created a scalable and sustainable model by combining specific data and community-driven approaches. The program's potential for wider replication and long-lasting impact is highlighted by its emphasis on forming partnerships and introducing techniques into national HIV programs.

EP0666

Enhancing HIV treatment continuity, overcoming urban mobility challenges through community cadres in the Zingane_OVC Project, a case of Bulawayo

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Background: In Zimbabwe although the HIV epidemic is pre-dominantly in rural areas there is an influx to cities in search of better economic prospects. In urban areas people are highly mobile, the mobility is influenced by job opportunities, housing affordability, educational needs, lifestyle choices, and changes in family circumstances. Migrants face greater stigma related to HIV in new environments.

This paper describes how the Zingane_OVC project is promoting treatment continuity for the highly mobile urbanites in Bulawayo.

Description: The project tracked 2,846 PLHIV in Bulawayo using 124 community cadres which each cadre having a defined cohort. The project applies a socioecological lens to understand and address the factors affecting PLHIV. The project uses Community Childcare Workers, Community Health Workers, youth peer facilitators, and mentor mothers as providers of frontline care to PLHIV.

These cadres are an increasingly essential bridge between clinic and community systems, they identify any new members of their communities as well as bi-directional referrals with other cadres. Their role involves assisting with appointment monitoring and follow-ups, ensuring referral completion and treatment continuity for children and caregivers, maintaining a community service directory, providing psychosocial support and ensuring proper identification of index cases. Each community cadre has an assigned cohort, which offers a structured and efficient way to monitor and support PLHIV.

Lessons learned: The use of the cadre-participant cohort system has improved viral load suppression in the children being monitored to 95% which is above the national average, 100% being retained on treatment while 91% being met physically within the community by the cadre. The system improves the maximum use of Differentiated Service Delivery (DSD) Models through a human centered design approach. The cohort system improves communication, enhances participant tracking, enables timely interventions, optimizes resource allocation, and promotes accountability in healthcare, PLHIV stay engaged in the treatment process.

Conclusions/Next steps: DSD models require a clear understanding of patient preferences which can help in designing services that ensure optimal utilization and improve the efficiency of care. Community cadres play a pivotal role in linking communities to the health facilities supporting the overstretched health care workers, however, investing in motivating these individuals is essential.

EP0667

(Re)producing HIV Care for Ukrainian refugees in Germany and Poland: trans-local community-based support in action

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Background: Following the 2022 Russian invasion of Ukraine, millions were displaced across Europe, creating unique challenges for healthcare access among refugees living with HIV. This study examines the role of community-based organizations (CBOs) in Germany and Poland in overcoming barriers to HIV care for displaced Ukrainian populations, with an emphasis on gender-sensitive and community-led approaches.

Methods: A participatory action research design was employed, involving Ukrainian HIV activists, community members, healthcare professionals, and social workers (46 participants interviewed in 2023-2024). Data collection included semi-structured interviews and ethnographic observations in Germany and Poland. Reflexive thematic analysis identified key barriers and enablers to HIV care linkage and retention, focusing on gender dimensions, stigma, and the integration of community-led interventions.

Results: This study identifies systemic, structural, and individual barriers to HIV care for displaced Ukrainian refugees in Germany and Poland. Systemic hurdles include Germany's decentralized healthcare and Poland's insurance-based model, delaying access to antiretroviral therapy (ART). Structural challenges involve language barriers, limited mobility, and a shortage of trained social workers, while individual obstacles include stigma, fear of disclosure, and war-related trauma.

CBOs like HelpNowHUB in Poland and PlusUkrDe in Germany bridged these gaps, offering peer counseling, translation, cross-border ART transportation, and advocacy for migrant-sensitive care. Women, the majority among displaced populations, faced compounded challenges yet played a pivotal role in sustaining these networks. Their contributions ensured continuity of care, addressed gender-specific needs, and fostered inclusive, empowering spaces for mutual aid.

Conclusions: This research underscores the transformative potential of community-driven interventions in ensuring equitable HIV care for displaced populations. Recognizing and supporting CBOs as key stakeholders in pub-

lic health responses is essential to overcoming systemic barriers and addressing the complex needs of Ukrainian refugees in European countries. The findings advocate for policy shifts toward integrated, migrant-sensitive, gender-responsive healthcare and greater agency of migrants groups in health policy and budget advocacy to enhance HIV prevention and care for vulnerable groups in host countries. Community-based migrant organisations must be supported and encouraged to play a structural role in planning and implementing national HIV programs across EU countries.

EP0668

Empower-HER: igniting the potential of adolescent girls and young women in HIV and SRH leadership

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Background: Over the past decades, HIV prevalence, incidence, and burden have consistently decreased across WCA, indicating a controlled epidemic. Nevertheless, significant variations continue to exist.
Description: The project conducted a mapping exercise to assess the involvement of youth in Council Multisectoral AIDS Committees (CMACs) and Regional Multisectoral AIDS Committees (RMACs) in five regions of Tanzania. The mapping evaluated CMAC/RMAC activeness, youth participation in decision-making platforms, and resource availability for meetings.
Additionally, mapping was conducted in three other regions (Kilimanjaro, Manyara, and Mwanza) to gain a broader understanding of youth representation.
Lessons learned: The mapping exercise revealed key insights into the challenges and opportunities for youth involvement in HIV and SRH decision-making in Tanzania. Findings highlighted the need for strategies to improve youth representation, strengthen communication channels between youth and decision-making bodies, and increase resource allocation for youth-led initiatives.
These findings will inform the development of targeted interventions to enhance youth engagement and improve the effectiveness of HIV and SRH programs in Tanzania.
Conclusions/Next steps: The EMPOWER-HER project highlights the transformative power of investing in adolescent girls and young women (AGYW) as leaders in the HIV response. By equipping over 300 AGYW with leadership and advocacy skills. By addressing the identified gaps in youth engagement, the project ensures that the voices and needs of young people, particularly AGYW, are fully integrated into the national HIV response.
This approach contributes to more effective and equitable HIV prevention, treatment, care, and support services for young people in Tanzania. Moving forward, expanding mentorship programs, strengthening partnerships with local stakeholders, and increasing resource allocation will be critical. Future initiatives must build on these successes, prioritizing AGYW to create sustainable, community-driven solutions in the HIV response.

EP0669

Perceptions of long-term survivors of HIV on cure research in the United States

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Background: Efforts to find a cure for HIV have intensified. Long-term survivors (LTS) of HIV, including those who were diagnosed with HIV before the advent of effective antiretroviral therapy, can provide critical insights for HIV cure trials. As over half of people with HIV (PWH) in the United States (U.S.) are now over 50, with projections reaching 70% by 2030, it is vital to understand the perceptions, willingness, and barriers to participation in cure trials among this aging population, who face elevated risks of co-morbidities and psychosocial challenges.
Methods: We conducted a qualitative study with LTS aged 60 and older, recruiting participants through community-based organizations and research networks. Semi-structured interviews explored their views on HIV cure research, focusing on motivations, concerns, and barriers to participation. We anonymized transcripts and analyzed the data using conventional content analysis, achieving thematic saturation through independent coding. All participants provided verbal informed consent, and the University of California San Diego IRB (#808882) approved the study.
Results: We enrolled 32 participants (mean age 66.6, range 60–82), including 53.1% cisgender female, 50.0% cisgender male, and 3.1% transgender female. The sample included 53.1% White and 37.5% Black participants from various U.S. regions. LTS expressed strong motivation to join cure research, driven by a sense of responsibility and hope for future generations. Many viewed trial participation as a way to access innovative treatments and improve their health.

However, participants highlighted significant barriers, including age-based exclusions, logistical challenges like transportation and clinic accessibility, and considerations related to analytical treatment interruptions such as viral rebound and HIV transmission risk. Some voiced skepticism because of past research disappointments, while others stressed the need for transparent communication, clear informed consent, and flexible research designs. Invasive procedures, such as lumbar punctures, also deterred participation for some.

Conclusions: Engaging LTS of HIV in cure research requires careful consideration of their unique experiences and needs. It is essential to address barriers to participation, such as age-based exclusion and logistical challenges, while fostering trust through clear, straightforward communication. Meaningfully engaging LTS in future HIV cure trials will help enrich the research landscape and lead to more inclusive HIV cure approaches.

EP0670

How community engagement enables researchers to obtain funding and implement grants successfully

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Background: Community Advisory Boards (CABs) are essential to ethical and participatory research practices. CAB involvement throughout the research process enhances the relevance and applicability of findings, ensures the research resonates with community needs, fosters culturally relevant and practical study designs, proactively addresses potential ethical issues, and improves recruitment and retention of study participants.

Description: In preparation for submitting an Ending the HIV Epidemic (EHE) grant, researchers and community members (e.g., Ribbon-A Center of Excellence, Christie's Place, and Older Women Embracing Life) co-developed a proposal to implement a program addressing Substance (Ab)use, Violence, and the AIDS/HIV syndemic in women. Additional activities included developing an independently led CAB for the Women-focused Encounters for Resilience, Independence, Strength, and Eudaimonia (WE RISE) study.

Lessons learned: Employment of community-based participatory research principles such as deliberate, early, mutually respectful, transparent, and active engagement with community members enabled WE RISE to:

1. Develop an acceptable and feasible intervention to be implemented in community-based organizations (CBOs) across the U.S.,
2. Identified CBOs to partner with in EHE jurisdictions,
3. Assisted in the decision-making around inclusion/exclusion criteria,
4. Selected CAB representatives with complementary experiences,
5. Co-developed processes to ensure CAB and researcher equity, and;
6. Provided recommendations to encourage study recruitment and retention (Table 1).

These efforts led to research processes and decisions contributing to successful NIH funding and active, enthusiastic, and rapid implementation of WE RISE within CBOs. CAB members also ensured that study decisions prioritize research equity and are consistent with individual CBO missions.

1. Active engagement through ALL phases
2. Foster trust through consistent engagement
3. Ensure adherence to ethical standards
4. Build capacity to optimize contribution
5. Implement shared decision-making
6. Provide resources and support
7. Co-develop ground rules
8. Maintain confidentiality
9. Evaluate effectiveness

Table 1: Essential Community Engagement Principles

Conclusions/Next steps: Engaging the community cultivates trust and transparency, ensures ethical research conduct, honors the needs and values of all participants, and optimizes research performance, particularly for underrepresented persons. Ongoing CAB activities and outcomes will continue to be evaluated through study implementation and dissemination.

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EP0671

Providers' perspectives towards integration of hepatitis C test-and-treat strategies into key population-led HIV clinics in Thailand: a qualitative study using the theory of planned behavior

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Background: The integration of key population (KP)-led hepatitis C virus (HCV) test and treat in KP-led health clinics aims to address the high prevalence of HCV and barriers to care among key populations in Thailand. Understanding KP-lay providers' perspectives is crucial to design strategies to ensure successful implementation. We assessed the perspectives of these lay providers on delivering HCV test and treat services during the pre-implementation phase.

Methods: We conducted a cross-sectional study among KP-lay providers using survey developed based on the Theory of Planned Behavior (TPB), which included demographics and basic constructs of TPB: intentions, attitudes, perceived behavioral control, and subjective norms regarding the HCV test and treat intervention and its integration in their routine service.
Multiple regression was conducted to identify demographic variables influencing KP-lay providers' perspectives on implementation. Prediction level was evaluated utilizing Structural Equation Modeling (SEM).
Results: Between June-December 2024, 101 KP-lay providers from nine KP-led HIV clinics who had a minimum of six-month work experience responded to the survey. The median age (interquartile range, IQR) was 32 (28-36) years, median (IQR) working years in clinic was 4.8 (2.3-6.9). Mean scores (standard deviation, SD) for intentions, attitudes, perceived behavioral control, and subjective norms were 4.48 (0.57), 3.98 (0.85), 3.91 (0.64), and 3.89 (0.28), respectively. Experience in providing HIV and HCV care was significantly linked to attitudes (p=0.029).
SEM demonstrated excellent model fit (χ^2=68.36, CFI=0.97, RMSEA=0.065). Perceived behavioral control was a strong predictor of service provision intentions (β=0.774, p<0.001). Covariances showed significant relationships between attitudes and subjective norms (0.343, p=0.001), attitudes and perceived behavioral control (0.275, p=0.017), and subjective norms and perceived behavioral control (0.619, p<0.001).
Conclusions: KP-lay providers in KP-led HIV clinics showed a favourable perspective on implementing the HCV test and treat intervention. Direct experience with clients with HCV shaped perceptions. Perceived behavioral control strongly predicted intentions to provide services, with attitudes and subjective norms influencing intentions indirectly through perceived behavioral control. Tailored strategies, such as knowledge-building or confidence-building for KP-lay providers, are needed to ensure high intention and successful implementation of KP-led HCV test and treat intervention, potentially leading to HCV elimination among key populations in Thailand.

EP0672

Parental, spousal, peer spaces of influence on adolescent girls and young women's participation in HIV prevention research among fishing communities along lake Victoria, Uganda

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Background: Adolescent girls and young women (AGYW) in sub-Saharan Africa contribute 30% of new HIV/AIDS infections. Newer prevention strategies that attend to maturing immune systems and inequities faced by AGYW are vital in ending HIV/AIDS by 2030. Clinical research to test new prevention strategies is vital but challenged by vast parental, spousal and peer spheres of influence as significant social barriers across the research processes. The UVRI – IAVI HIV Vaccine Program implemented a preparedness study among AGYW to inform future HIV vaccines and BnABs as new HIV prevention options.
We explored the social influence that parents, spouses and peers play in impacting AGYW participation in HIV prevention research.
Methods: The Good Participatory Practices framework of engagement highlighted broader stakeholders for involvement in the AGYW recruitment and retention. These included; local government policy makers, Community gate keepers, health services providers, Village Health Team structures.
Consultative meetings with the above stakeholders highlighted the role of parents, spouses and peers in the research processes. Research and study specific literacy platforms were established for AGYW parents and spouses to facilitate the consenting processes and recruitment. Parents were involved in obtaining potential participants identification as a prerequisite for recruitment. Parents were constituted into Focus Group Discussions and In-depth Interviews to provide insights into the Social Behavioral Research component of the study with outcomes highlighting demystifying on mucosal sampling. Parental and spousal targeted meetings were conducted to address retention challenges. Formal Peer advisory and engagement mechanisms were established to facilitate co-creation and support. These included; Youth CAB and Community based retention committees.
Results: Although 805 AGYW expressed willingness to participate in the study, 193 (23.9%) were negatively influenced by parents, spouses and peers at pre-screening, 155 (38.8%) minors received parental consent to enroll into the study while 165(41.2%) sought for spousal permission. Peer networks have greatly influenced retention efforts through peer education and support.
Parental, spousal and peer predictors of influence included; perceived benefits like free treatment and risks, perceived HIV risk, knowledge on health research, myths and misconceptions.
Conclusions: Engagement of parents, spouses and peers remains critical in shaping AGYW participation in HIV prevention research.

EP0673

Leveraging digital platforms to address social determinants of health and promote behaviour change among South African youth

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Background: South Africa faces significant sexual and reproductive health (SRH) and mental health challenges among young people, exacerbated by social determinants such as poverty, stigma, and limited access to youth-friendly services. The Young Africa Live (YAL) platform integrates these determinants into its tailored digital health interventions, focusing on strengthening user persistence and behavior change.

Description: The YAL platform employs a multipronged digital approach via WhatsApp and Facebook, offering SRH and mental health education, self-assessment tools, and linkage to services. Tailored interventions are informed by baseline assessments of users' mental health, locus of control, and social connectedness, guiding personalised content delivery.
The study conducted a mixed-method evaluation using baseline and endline surveys, program monitoring data, and focus group discussions to measure changes in knowledge, attitudes, and behaviors
Lessons learned: Analysis of platform data revealed a significant decrease in depression and anxiety among users, accompanied by an increase in locus of control and improved feelings of connectedness. These psychological improvements strongly correlated with positive changes in SRH behaviors, such as increased condom usage and STI testing. Endline results showed that users who demonstrated the greatest improvements in psychological resilience were more likely to sustain desired behaviors, underscoring the importance of persistence in achieving long-term impact. Furthermore, YAL's targeted interventions effectively engaged marginalised youth, addressing disparities in SRH and mental health outcomes.
Conclusions/Next steps: The findings highlight the potential of integrating social determinants into digital health interventions to drive sustained behavior change. By addressing mental health and connectedness, YAL fosters a supportive environment for users to adopt and maintain positive health behaviors. Future phases will prioritise scalability and incorporate advanced data-driven approaches to further tailor interventions. By enhancing access to adolescent-friendly services, particularly for underserved populations, it bridges critical gaps in HIV prevention and treatment. This scalable, data-driven model offers a replicable framework for tackling global health challenges in resource-limited settings.

EP0674

Human-centered HIV risk self-assessment for HIV prevention study eligibility and participation among adolescent girls and young women in fishing communities-Entebbe, Uganda

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Background: AGYW in fishing communities in Uganda face disproportionate HIV risk, making them key candidates for future HIV prevention trials. Newer prevention strategies that attend to maturing immune systems and inequities faced by AGYW are vital in ending HIV/AIDS by 2030.
UVRI-IAVI HIV Vaccine program implemented human centered engagement and pre-screening activities to identify potential participants for HIV prevention trials. The engagements were premised on a Good Participatory Practice framework that aimed to involve communities in more meaningful research partnerships.
We engaged communities with high burden of HIV across the trial processes using GPP models that elicit mobilization, self-risk evaluation, recruitment, retention and support for new HIV improved interventions.
Methods: Approved GPP plans were implemented to engage research communities and high-risk females in conversations that generate self-assessments to support mobilization, recruitment and retention of female participants aged between 18-49years.
Pre-screening meetings were organized for AGYW to discuss key risk drivers in their communities. Manilla charts, markers were used by female participants to make visual pictures of a female while marking parts of the body that indicate points of risk translated in form of need for monies from men who can afford to provide.
We demonstrated HIV risk in relation to body parts cosmetics. Keys notables make up areas included Hair, lips, nails, foot ware, clothing, under pants, facial make up, bras, food and child support.
The more parts on the female body required for make – up, the more resources are required to maintain and ultimately the more sexual partners hence HIV risk.
Results: Involving AGYW participants in HIV risk assessment has greatly supported processes for defining risk in the context of HIV. Promoted self-evaluation of the risk and informed consent to participate in studies.
The conversation around self-evaluation and assessments has promoted meaningful relationships between researchers and communities with the later feeling involved rather than exploited. Communities have gained more understanding on the need for female participation in health research.
Conclusions: Involving communities in HIV risk self-assessment empowers communities to be active partners in the research processes while complimenting conventional risk assessment tools and addressing vulnerability drivers.

EP0675

Co-creation to encourage youth engagement in health and wellness services in South Africa

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Background: This study explores the application of co-creation as a participatory methodology to engage youth in health and wellness services, particularly in HIV prevention, in underserved South African communities. The project aimed to improve healthcare engagement among young people, especially males aged 18-30, in Khayelitsha and Mitchell's Plain.
While not solely focused on HIV prevention, the project utilized a community-engaged approach to develop health communication campaigns with youth, local organizations, and role models. Believ Contact Agency was the creative agency contracted by Project Last Mile for the Western Cape Department of Health, with funding from USAID and PEPFAR.

Description: Running from mid-2023 to December 2023, the project used a co-creation process involving six youth organizations to design health communications and wellness events. Through co-creation workshops, young people, community leaders, and health professionals collaboratively developed campaign materials and identified key health priorities, including HIV prevention. Health services, including HIV screenings, were integrated into the wellness events, which aimed to engage youth in a safe, relatable environment.
The intervention reached over 779 young people, delivering 1,333 health services. The process was documented, and the co-creation methodology is available for other organizations to replicate interventions.
Lessons learned: The project demonstrated that co-creation significantly enhances youth engagement in health services by fostering a sense of ownership and trust. Youth role models played a critical role in the success, with 85% of attendees hearing about the events through these role models. Trust in healthcare providers increased by 5%, and trust in role models grew by 20%. The participatory approach created a safe space for discussing health issues, including HIV, and allowed for integrated health services to be delivered in a non-judgmental environment, improving health literacy and encouraging positive behaviors.
Conclusions/Next steps: This co-created model provides a replicable framework for HIV-related interventions, particularly for engaging hard-to-reach youth populations. The documented process offers a valuable tool for scaling similar initiatives and integrating mental health services into future youth health programs, fostering holistic, community-driven solutions to public health challenges.

EP0676

Ahoundjouê, a key lever for HIV prevention and strengthening parent-child bonds in the DREAMS Initiative in Côte d'Ivoire

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Background: In Côte d'Ivoire, Adolescents Girls and Young Women (AGYW) aged 15 to 24 are particularly vulnerable to HIV, with a prevalence rate of 3.2% in 2012[2]. They face challenges such as early pregnancies, forced marriages, and gender-based violence, which increase their exposure to HIV. The DREAMS[3] Soungourou Farima program, supported by USAID/PEPFAR since 2018, aims to prevent HIV by strengthening the relationships between parents and young girls.
The positive parenting program Ahoundjouê, implemented in Cocody-Bingerville, has been a key tool in improving communication and raising awareness within families about HIV issues.
Description: The Ahoundjouê (we are at peace) program consists of 14 sessions focused on three main areas: defining the program's goals and expectations, encouraging quality time between parents and young girls to strengthen their bonds, and providing tools to resolve family conflicts while promoting healthy family budgeting. These weekly sessions take place in secure spaces at intervention sites, using an interactive and participatory methodology that fully engages all participants for better family skills development.
Lessons learned: To date, 21,690 people have participated in Ahoundjouê sessions, including 10,845 parents (3,317 men and 7,528 women) and 10,845 AGYW (5,596 aged 10-14, 5,249 aged 15-19). Feedback indicates a significant improvement in family relationships, with better communication around reproductive health and HIV issues.
Both young girls and their parents are now actively engaged in discussions on HIV prevention and risks, contributing to a reduction in the vulnerability of adolescents.
Conclusions/Next steps: The Ahoundjouê program has strengthened family relationships and parental skills in HIV prevention. Its collaborative approach has facilitated the acquisition of essential skills for combating HIV.
To sustain these results, it is crucial to integrate these initiatives into national HIV response policies, ensuring that family relationships remain central to prevention strategies.

EP0677

An AGYW-led HIV prevention research agenda: shaping inclusive and responsive strategies

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Background: Adolescent girls and young women (AGYW) in sub-Saharan Africa remain disproportionately affected by HIV, yet their voices are often underrepresented in prevention research and implementation. In 2024, the Young Women's HIV Prevention Council (YWHPC), through the Coalition to Accelerate and Support Prevention Research (CASPR), launched a multi-country initiative across 8 African countries to define AGYW priorities across the HIV prevention R&D pipeline.
The resulting AGYW-led research agenda promotes equitable access, culturally relevant solutions, and a more inclusive approach that positions AGYW as leaders and partners in combating HIV.
Description: The YWHPC research agenda was developed through a multifaceted approach, April-July 2024: online survey, in-person and virtual convenings, and targeted discussions across YWHPC countries, Key data collection categories included research priorities of AGYW on HIV prevention, product preferences, and how best to engage AGYW from research to roll out. The YWHPC survey data was analyzed using qualitative methods.
Meeting notes were transcribed and synthesized for further analysis. Thematic analysis identified common themes and insights. The insights were validated in October 2024 among AGYW and other stakeholders.

Lessons learned: The research agenda called for decision-makers across the research enterprise to:

- Prioritize discreet, long-acting, user-friendly prevention tools, drawing inspiration from innovative industries;
- Integrate clear, early access strategies into efficacy trial programs;
- Address systemic barriers like stigma and gender inequality; e.g., through cultural and gender-sensitive approaches to community and facility-based services;
- Address vaccine hesitancy through transparent, AGYW-focused communication;
- Integrate HIV prevention with broader sexual and reproductive health (SRH) services, leveraging digital platforms to improve education and outreach;
- Align prevention efforts with AGYW's lived realities by creating meaningful mechanisms for culturally sensitive input.

Conclusions/Next steps: The AGYW-led research agenda demonstrates the importance of inclusive and participatory approaches in HIV prevention. It offers actionable insights to improve prevention research, policy, and advocacy through AGYW leadership.

The agenda will be instrumental in guiding future research, policy, product development, and advocacy efforts to ensure HIV prevention efforts optimal for AGYW. This model serves as a blueprint for similar interventions that address the unique needs of AGYW to accelerate progress toward ending the HIV epidemic.

EP0678

An innovative community engagement model for improving HIV prevention: The LISTEN Process in Eswatini

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Background: Long-term solutions addressing barriers and utilization of HIV prevention and treatment services require community participation, ownership, and programs integrated with local priorities. Yet, communities are rarely engaged in designing and delivering of HIV prevention interventions, and their innovations are seldom identified or scaled.

The LISTEN process (Local Initiatives Scaled Through Enterprise Networks) offers a structured approach—through enhanced communities of practice (CoP), linked to decision-makers, using human-centered design (HCD) and data support—to leverage local knowledge and innovation so communities are empowered to develop and own solutions.

We hypothesized that LISTEN would improve HIV prevention outcomes for vulnerable and key populations through LISTEN's innovative community engagement processes.

Methods: We conducted a quasi-experimental, mixed-methods evaluation on HIV prevention outcomes — i.e., utilization of condoms, HIV testing, PrEP, and VMMC — after four years of implementation in two Regions of Eswatini. We developed a comparison population of existing CoP, matching them to LISTEN CoP (e.g., youth, savings groups) at endline. A two-stage sampling was conducted, first purposively selecting CoP, then random selection of members (n = 439).

We analyzed data using matched analysis owing to limitations in constructing a suitable comparison. We conducted 30 in-depth interviews with LISTEN CoP members, analyzing qualitative data with thematic analysis.

Results: LISTEN CoP members were significantly more likely to report using condoms, initiating PrEP, and circumcision than comparison CoP members. There was a difference comparing the proportion of HIV+ individuals in LISTEN (16.8%) versus comparison CoP (20.6%), but this was not significant after matching.

We found significant improvements in individual attitudes, behavioral control, and norms relating to HIV prevention behaviors, particularly among males. Qualitative interviews with LISTEN CoP members highlighted extensive participation of priority populations, "empowered CoP" with dense links to communities and decision-makers, and an appreciation of LISTEN's participatory nature and use of HCD to organize problem solving with CoP and communities "at the center."

Conclusions: The LISTEN process, through its innovative engagement and solutioning to community problems, is a promising model for improving access to HIV prevention opportunities. We believe that these efforts lead to improved collective efficacy, buy-in, and development of contextually appropriate and sustainable solutioning.

EP0679

Strengthening health systems through community engagement and demand generation: lessons from COVID-19, HIV/AIDS, and TB interventions at Efut Anantigha PHC, Calabar South Cross River State Nigeria

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Background: The Centre for Healthworks, Development, and Research Initiative (CHEDRES), in collaboration with the Global Funds and the TB Network, implemented the COVID-19 Response Mechanism (C19RM) and Resilient and Sustainable Systems for Health (RSSH) programs at Efut Anantigha Primary Healthcare Centre in Calabar South. The initiative sought to strengthen health systems, improve healthcare outcomes, and actively involve communities in the design, delivery, and evaluation of health services.

Its objectives was to mitigate the effects of COVID-19 while enabling testing and treatment of HIV/AIDS and tuberculosis, with strong emphasis on raising awareness and fostering community engagement.

Description: The project focused on vulnerable populations, including individuals with pre-existing conditions, women of reproductive age (16–40 years), the elderly, and underserved communities in Calabar South. It used community-led participatory approaches including recruiting and training a Community-Led Monitoring Team (CLMT),Hosting monthly coordination meetings to track progress and gather feedback, Organizing demand-generation initiatives to raise awareness and boost the use of health services having 1194 general clients, 144 Antenatal care clients and 184 OPD clients from May to September 2024

Lessons learned: The project revealed several critical insights showing that Demand Generation Drives Service Uptake creating awareness campaigns and community sensitization were pivotal in increasing the use of COVID-19 RM, HIV/AIDS, and TB services. Also, Community Participation Enhances Effectiveness, foster trust, ownership, and sustainability for the interventions.

Additionally, Flexible Implementation Expands Access through Outreach initiatives and extended clinic hours made healthcare more accessible for vulnerable populations. The use of Data-Driven Adaptation Improves Outcomes enhanced participatory tools like FGDs and KIIs provided actionable insights, enabling real-time adjustments to address service gaps.

Conclusions/Next steps: The success of the C19RM and RSSH interventions at Efut Anantigha PHC demonstrates the transformative impact of demand generation and community engagement in strengthening health systems. These findings underscore the importance of integrating participatory approaches and sustained sensitization efforts to boost the uptake of COVID-19 RM, HIV/AIDS, and TB services.

Future efforts will focus on expanding this model to other facilities in Calabar South and incorporating community-led monitoring into national health policies. Building the capacity of local stakeholders will remain essential for sustaining these achievements and advancing healthcare outcomes.

EP0680

Youth leadership and engagement in HIV strategy and policy development: a case study from the UNICEF/WHO/UNAIDS Blueprint Collaborative

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Background: Adolescents and young adults (AYAs) face worse outcomes along the HIV prevention and care continuum compared to adults. Despite global commitments to youth engagement, AYAs are often excluded from research, programs, and policy, with few opportunities for youth leadership. We present a case study of young people (10–30 years) shaping adolescent HIV strategy through the 2023 Blueprint Collaborative, co-sponsored by UNICEF, WHO, and UNAIDS.

Description: The Blueprint Collaborative compiled research evidence and crowdsourced ideas to guide UNICEF's strategic planning for adolescent HIV programming in high-burden settings. The initiative included a youth-led rapid evidence synthesis on adolescent HIV interventions and a global open call organized by youth co-leads and judged by a majority-youth jury, which received 107 ideas from young people on improving adolescent HIV outcomes.

Lessons learned: We applied the RIGHTS framework by Olivera et al. (2018) to assess the strengths and limitations of youth engagement in the Blueprint Collaborative (Table 1). A major strength was the degree of youth engagement, moving beyond youth consultations to youth leadership. Youth were 'substantially engaged' as lead researchers, organizers, and open-call judges, sharing decision-making authority with adults (Asuquo et al., 2021). Youth not only informed but directed research which affected them. Lived experience with sexual health services enabled open-call participants to innovate creative solutions and judges to assess relevance. Through a 'learning by doing' approach, youth gained skills in research and multidisciplinary collaboration. Outputs were impactful, being presented to senior leadership, incorporated into UNICEF strategy, and disseminated through publications and global youth networks. As for limitations, youth organizers and participants were generally older (20–30). Youth reach and engagement were further limited by the digital nature of activities.

Criterion	Explanation	Rapid evidence synthesis	Open call
Resourced	What remuneration, financial or otherwise, is provided?	Honoraria and mentorship provided for co-leads	Cash prizes for finalists ($1500) and runners-up ($500); honoraria for co-leads, organizing committee members, and judges; mentorship provided for organizers and participants
Impactful	How are results used?	Results reviewed by UNICEF, WHO, and UNAIDS decision-makers; published in eClinicalMedicine; disseminated via social media (X, BlueSky, LinkedIn) and UNICEF/IAS global youth networks	Winning submissions presented to senior UNICEF, WHO, and UNAIDS leadership, manuscript submitted for publication
Genuine	Is engagement voluntary and participatory?	Participants volunteered to be involved and took on review tasks as time and skillset allowed	Participants were aware of open-call rules and voluntarily participated, independently forming teams, generating ideas, and crafting pitches
Harmless	Are there harms of participation?	No obvious harm from participation	No obvious harm from participation
Teen-friendly	Adapted as, Are activities age-appropriate?	Tasks at an appropriate level of research literacy and competency for team members, with input and supervision from senior researchers	Opportunities to leverage lived experience as youths in submissions; judging criteria cognizant of age and considered novelty and relevance, not just technical competencies; shared decision-making authority with adults
Skill-building	What skills or competencies are learned or practiced by participating?	All team members gained training in systematic review methods, including searching, screening, data extraction, quality assessment, and confidence assessment; co-leads enhanced their project management skills	Participants practiced teamwork, creativity, and presentation skills; judges honed evaluation for public health potential; co-leads and organizing committee practiced project management and qualitative research methods

Table 1. RIGHTS framework.

Conclusions/Next steps: Youth are eager to drive HIV strategy and policy, but more opportunities for youth leadership are needed.
Policymakers should enable youth leadership in policy planning to align programming with youth priorities and build research and advocacy skills.

EP0681

Early engagement of communities in HIV cure research: insights from the Makerere University Walter Reed Program (MUWRP)

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Background: The HIV pandemic has greatly impacted Uganda, with approximately 1.4 million people living with the virus, and prevalence rates reaching up to 9.9% in a localized epidemic distribution. This calls for innovative HIV cure research initiatives whose progress is partly dependent on community acceptance. The Makerere University Walter Reed Program (MUWRP) in Uganda, implemented innovative community engagement activities to advance HIV cure research. We highlight the lessons learned to inform future HIV cure research initiatives in Uganda and similar settings.
Description: The HOPE Collaboratory under the Martin Delaney Collaboratories for HIV Cure Research, aims to accelerate HIV cure research through multidisciplinary collaboration. Between October 2023 and September 2024, MUWRP, as part of the Collaboratory, conducted community dialogues in Uganda, reaching 227 individuals, including persons of diverse sexual orientation and gender identities and people living with HIV (PLWH). These dialogues focused on inclusivity, stigma, fears, and opportunities related to HIV cure research.
Additionally, a roundtable dialogue involving scientists, Community Advisory Boards (CABs), civil society organizations, key populations, HIV cure research advocates, and health journalists was held. Data were documented through interactions and analyzed thematically.
Lessons learned: The Community Engagement initiatives highlighted 5 key areas;
(1) Legal and social barriers; where stigma and discrimination were cited to deter key populations from participating in research and access services,
(2) Confidentiality; where participants underscored the need for their information to remain private to avoid any backlash from the community,
(3) The burden of daily antiretroviral therapy (ART); as being exhausting and affecting the daily lives of persons living with HIV, thus the need for HIV cure discovery,
(4) Engaging policymakers; engage the Ministry of Health in Uganda and research regulators to create supportive policies that facilitate HIV cure research,
(5) Developing less burdensome HIV cure regimens; that is easier to manage and less intrusive.
Conclusions/Next steps: The findings suggest inclusive community engagement efforts to address legal, social, and confidentiality concerns, and foster supportive policies to advance HIV cure research.
The organization looks to disseminate these findings with key players to improve the feasibility and acceptability of HIV cure research in Uganda and similar settings.

EP0682

Using storytelling to address HIV stigma in Tanzania through co-created tools

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Background: In Tanzania, stigma presents a persistent barrier to HIV care and treatment adherence. The USAID Afya Yangu (My Health) Northern project adopted a human-centered design (HCD) approach to develop social behavioral tools. These tools aimed to promote empathy, reduce stigma, and encourage open communication about HIV within families and communities.
Description: The project began with extensive evidence gathering and immersion interviews with 70 participants, including people living with HIV (PLHIV) and healthcare providers. Two co-creation workshops engaging 40 stakeholders led to the development of two key storytelling tools:
Tara Atabasamu Tena Storybook: A child-friendly narrative featuring Tara, a personified river, designed to explain HIV and antiretroviral therapy (ART) adherence through relatable characters, vibrant illustrations, and story.
Njoo Tusemezane Game: A family-oriented game designed to facilitate conversations about HIV stigma and cultural practices, fostering mutual understanding and openness.
These tools were tested with children, families, and healthcare providers across rural and urban settings, to iterate them further for cultural context.
Lessons learned: The Tara storybook was pre-tested in a workshop setting and feedback indicated that using culturally resonant narratives and interactive elements like songs to simplify complex HIV concepts engaged children and adults alike.
However, implementation challenges, such as unsuitable healthcare settings for interactive sessions, underscored the need for community-centered venues and flexible scheduling.
The Njoo Tusemezane game was pre-tested and feedback indicated that the game encouraged families to discuss difficult topics, breaking down stigma and fostering inclusiveness. Families reported that the game not only strengthened communication but also inspired reflection

on cultural practices and behaviors. Initial difficulties in understanding the game format highlighted the importance of facilitation during early rollout.
These interventions highlighted storytelling's ability to create inclusive, empathetic spaces for dialogue, leveraging cultural traditions to address sensitive topics and empower participants.
Conclusions/Next steps: By integrating cultural narratives and interactive elements, storytelling tools promote inclusiveness and openness in HIV communication. Future implementations should focus on context-specific adaptations and support mechanisms to sustain engagement and dialogue across diverse settings.

EP0683

Harnessing digital innovation to combat HIV: lessons learned from Sex Talks Podcast in transforming SRHR education for Namibian youth

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Background: In Namibia, youth make up 71.1% of the population, but accessing comprehensive Sexual Reproductive Health and Rights (SRHR) education is challenging due to cultural taboos, stigma, and limited resources. This results in low contraceptive use (24%) and high unmet family planning needs (11.7%), which increase the risks of unintended pregnancies, STIs, and HIV. To address these challenges, innovative solutions are needed to engage youth and provide accessible, stigma-free SRHR and HIV education.
Description: Sex Talks Podcast is an award-winning digital platform aimed at improving SRHR education for Namibian youth aged 10-35. Covering topics like HIV, gender-based violence, mental health, and consent, the podcast offers a safe space for open discussions. With 19 episodes and over 6,000 listeners across platforms like Spotify and Apple Podcasts, the podcast also hosts community listening sessions, live events and is developing a chatbot as part of their podcast website. By combining expert interviews and youth-driven storytelling, the podcast challenges misconceptions and provides accurate information about HIV and SRHR, particularly reaching youth in remote areas.
Lessons learned: Sex Talks Podcast has successfully engaged Namibian youth through digital media, helping to reduce stigma and increase HIV prevention awareness. Key lessons include:

- **Youth-Led engagement:** Empowering young people to share their stories fosters relatable content and breaks down stigma.
- **Digital accessibility:** Reaching youth online has overcome geographical barriers to education and discrimination that comes with in person conversations.
- **Stigma reduction:** Open discussions challenge societal taboos and encourage youth to seek HIV testing and prevention.
- **Community impact:** Live sessions and community listening events build a sense of shared learning and local engagement.

These lessons underscore the effectiveness of digital innovation in providing accessible and impactful education to youth.
Conclusions/Next steps: Sex Talks Podcast shows how digital platforms can transform SRHR education and HIV prevention for youth. Moving forward, we aim to scale the podcast and develop a chatbot to reach more young people, continue fostering stigma-free conversations, and encourage greater engagement with HIV testing and prevention. This initiative aligns with the global goal of ending HIV by 2030 through youth empowerment, accessible education, and stigma reduction.

EP0684

Analysis of the Accelerating Progress in Pediatrics and PMTCT (AP3) Programme in Uganda

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Background: In Uganda, 37% of all new infections happen among children and adolescents, but despite progress in the country's HIV response, over 12,000 (0 – 19 years) children and adolescents living with HIV remain unidentified. The Accelerating Progress in Pediatrics and PMTCT (AP3) program, launched under COP22 by PEPFAR/CDC, seeks to address persistent gaps in pediatric and PMTCT HIV care in Uganda. To strengthen AP3 work, we use community-led monitoring (CLM) data to assess community perspectives on barriers and enablers to PMTCT and Pediatric HIV/TB services in Uganda.
Description: We conducted qualitative data collection under the CLM program through purposively sampled adolescents, and pregnant or breastfeeding girls and women. Focus group discussion and individual interviews were used at both the facility and community level. A total of 30 interviews and 10 FGD were conducted in November – December 2024. Data were analyzed thematically, with a focus on barriers and enablers.
Lessons learned: Respondents reported improvements in accessibility and quality of PMTCT and pediatric HIV services during the early implementation of AP3. However, key barriers were also identified that could strengthen programming. In particular, respondents reported inefficiencies in the implementation of differentiated service delivery (DSD) in schools which is contributing to the non-suppression rates andchallenges with pediatric medication, particularly bitter pills. Respondents also shared challenges with bringing their children for HIV PCR testing and reported low health literacy levels in relation to mixed feeding practice after child birth.

Conclusions/Next steps: This data points to progress achieved under the AP3 program, but also reveals clear areas that can be further strengthened. In particular, there is a need to create school-specific DSDM protocols, enhance community sensitization on pediatric formulations and literacy on mixed feeding, improve data collection systems in schools to strengthen HIV service delivery and outcomes for vulnerable populations. These data additionally point to the critical role of continuing to engage service users voices to improve program implementation.

EP0685

Effects of peer-education intervention on adolescents' utilization of HIV/AIDS prevention services at Adolescent and Youth Friendly Health Facilities, Makurdi, Nigeria

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Background: Adolescents constitute a significant proportion of Nigeria's population. They face heightened vulnerabilities to HIV and other sexual reproductive health challenges majorly due to their limited access to sexual and reproductive health information and services. Despite establishing Adolescent Youth Friendly Health Facilities (AYFHF) to address this gap in Makurdi, Benue State, Nigeria, service uptake has remained low.
This study was, therefore, designed to examine the effects of peer-education intervention on the adolescent's utilization of HIV prevention services at AYFHF.
Methods: The quasi-experimental study was conducted among in-school and out-of-school adolescents aged 10 to 19 in Makurdi. Baseline data was collected using a pre-tested questionnaire among 837 and 890 adolescents selected using multistage sampling technique in the intervention and control groups (CG) respectively which explored their socio-demographic information and utilization of AYFHF in the last five months. A 3-day workshop and educational training were carried out for 12 selected peer-educators who in turn carried out peer-education on basic information about HIV and AIDS, HIV transmission and prevention, youth-friendly facilities, location, and types of services provided among their peers for five months.
After this, post-intervention data was collected using the same questionnaire used at the baseline. Ten questions were used to assess the level of AYFHF services utilization. Each service utilized and not utilized was scored ‚10' and ‚0', marks respectively. Scores≥50 and <50 were graded as high and low utilization respectively. Data were analysed using frequency, and chi-square at p<0.05.
Results: The mean age of the participants was 16±2.3 and 15±2.4, 37.0% and 41.0% were males in the intervention and CG respectively. At the baseline, there was no significant difference in the utilization of HIV prevention services among participants in the intervention and CG (p>0.05). Only 2.7% and 2.0% had high utilization in the intervention and CG respectively. At the endline, 14.5% and 4.1% have high utilization in intervention and CG respectively (p<0.001).
Conclusions: Peer-education has helped to increase utilization of AYFHF among the target population. The government and other stakeholders should design and implement sustainable peer-education interventions to increase the utilization of HIV prevention services among adolescents.

EP0686

Health-seeking behavior among key populations in Rwanda: Persistent stigma and discrimination

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Background: Despite improvements in HIV prevention programs, engagement with healthcare services is still low in Female Sex Workers (FSWs) and Men who have Sex with Men (MSMs). This impedes the overall effectiveness of HIV interventions.
This study investigates the factors influencing health-seeking behavior among FSWs and MSMs, with a focus on stigma, discrimination, and accessibility of services.
Methods: A cross-sectional study was conducted using respondent-driven sampling (RDS) to recruit 2,560 FSWs in 2023 and 3,757 MSMs in 2024, who were receiving HIV prevention and care services from RNGOF. Participants were recruited from high-risk hotspots across Rwanda. Data were analyzed using advanced regression models to examine the relationships between stigma, discrimination, and health-seeking behavior while adjusting for socio-demographic variables and service accessibility.
Results: Among the 6,317 participants, 40.5% of FSWs and 59.5% of MSMs reported avoiding healthcare services due to fear of stigma or mistreatment, highlighting the importance of addressing these barriers. Regression analysis revealed significant associations between stigma (β = 0.42, p <0.001) and gender-based violence (β = 0.35, p <0.01) with reduced health-seeking behavior.
Furthermore, peer education and community support were positively associated with health-seeking behavior, increasing service utilization by 25%. HIV prevalence among FSWs decreased from 50.8% in 2010 to 35.5% in 2024, suggesting a positive trend in HIV prevention efforts.
Conclusions: Stigma, discrimination, and gender-based violence continue to be major barriers to health-seeking behavior among FSWs and MSMs in Rwanda, despite the progress in HIV prevention. Addressing these socio-cultural barriers through targeted interventions, such as advocacy for the rights of key populations and strengthening peer education, is essential for improving healthcare access and reducing HIV prevalence.
Future efforts must prioritize eliminating these barriers to enhance the effectiveness of HIV prevention and treatment programs.

EP0687

Youth advisory boards in adolescent HIV research in LMICs: literature review and reflections from youth advisors

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Background: The Adolescent HIV Implementation Science Alliance (AHISA) youth advisory group, composed of youth HIV advocates and researchers primarily from low- and middle-income countries (LMICs), conducted a literature review and provided reflections on the use of youth advisory boards (YAB) in HIV research. The aim was to describe how and to what extent YABs are being engaged in adolescent HIV research in LMICs.
Methods: We searched seven literature databases for articles that had a designated YAB as part of youth HIV research (10-24 years). Peer-reviewed articles were included if they had a YAB, were conducted exclusively in an LMIC, and were published between 2014-2024 in English. We characterize how YABs are engaged, their composition, activities, and role in the research study. Then, as youth actively engaged in different YABs, we reflect on the findings and their alignment with our own experiences.
Results: Among 248 unique citations, only 10 articles from five countries—Kenya, South Africa, Nigeria, Lesotho, and Kazakhstan—met the inclusion criteria. They primarily targeted HIV prevention. Their additional focus areas included PreP uptake, stigma, gender-based violence, and mental health. YAB activities in the literature typically included providing early feedback on intervention and implementation activities.
However, AHISA youth reported that they were usually involved throughout the research process, co-designing research components and engaged in dissemination. Both the literature and AHISA youth found that YABs were designed for the specific study with members reflecting the study population. Explicit changes based on YAB involvement were only stated in 30% of studies.
In contrast, the AHISA youth reported that their YABs impacted the final research design, better reflecting the community in which the research was taking place and making the research more acceptable and youth-centered.
Conclusions: Description of YAB composition, engagement, activities, and impact on adolescent HIV research in LMICs in the literature is limited, not well described, and may not reflect how YABs actually operate. Addressing this gap would help to ensure that through formal engagement of youth, adolescent HIV research is responsive to the community in which it sits, and that youth input is integrated, impactful, reported, and recognized.

EP0688

"Sisters Influencing Sisters:" developing a community-engaged, social media-based, influencer-led intervention to increase PrEP awareness, knowledge, and uptake among transgender women in the United States

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Background: Transgender women (TW) have a disproportionate burden of new HIV diagnosis globally, yet are less likely to use PrEP, due to intersectional social and structural barriers to accessing services. TW utilize social media to share health information and foster community, yet few interventions have harnessed these platforms for education or linkage-to-care. We partnered with TW Influencers and engaged a Community Advisory Board (CAB) to develop content to refine an evidence-informed intervention to increase PrEP awareness and use, among TW through peer education and referral to vetted service providers.
Methods: Community activists and healthcare providers were recruited to join the CAB, who attended meetings (3), completed surveys, and in-depth interviews. Formative information was gathered on (1) social media use patterns; (2) recommendations on platforms, Influencers, and strategies; (3) preferences on health communication products.
We also established paid partnerships with TW Influencers, representing diverse cultural backgrounds, who had public accounts and minimum 1,000 followers. We designed and conducted an online training to prepare Influencers to be peer educators and to finalize intervention content.
Results: CAB members (8 TW; 1 cisgender woman) recommended TW-specific infographics and storylines and provided feedback on images, colors, and message preferences. They offered input on training needs and suggested influencers. We conducted a review of online accounts, looking at reach, follower demographics, and content, and recruited and partnered with TW Influencers (8).
Influencers participated in a 10-hour training over five days, on PrEP education, research training, and co-design of intervention content and implementation. Final intervention materials addressed common concerns, such as interference with hormone therapy and how to talk with partners about PrEP; provided education on HIV; and featured PrEP navigators. Graphic templates included a range of styles that Influencers adapted to align with their brand.

Conclusions: We co-designed and developed an intervention with our CAB and TW-influencers, resulting in the "SIS" intervention to increase access to PrEP information, foster dialogue around PrEP within community online spaces, and provide linkage to trans competent and gender affirming prevention services.
Partnering with community was essential to designing an online intervention that met the specific needs of TW to increase PreP knowledge and access.

EP0689

Gathering feedback on the delivery of HIV prevention services or interventions from orphaned and vulnerable children and adolescent girls and young women in Eswatini: beneficiary surveys

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Background: World Vision Eswatini (WVE) implements several HIV prevention programs targeting orphaned and vulnerable children, adolescent girls and young women, adolescent boys and young men, and caregivers. The effective rollout of these HIV prevention interventions requires the input and voice of different target populations. World Vision Eswatini conducts an annual beneficiary satisfaction survey aimed at determining the views of program participants on the different HIV prevention interventions and selected program areas and to facilitate engagements on suggested improvements and changes in delivery of these HIV prevention programs.
Description: World Vision Eswatini uses a mixed methods approach in that both qualitative and quantitative methods are applied. Face-to-face interviews and focus group discussions are conducted to allow probing.
Respondents rate the relevance of provided HIV interventions, where 98% stated that the interventions were relevant, 93% mentioned improved health education, and 99% were extremely satisfied with these interventions.
Respondents also reflect on knowledge improvements in their lives as a result of HIV prevention interventions provided through WVE programs, and 94% (1615/1719) indicated significant improvements.
Lessons learned: Partnering with communities is essential in designing relevant HIV prevention programs. Feedback from beneficiaries enables HIV prevention programs to meet target populations at their point of need and minimize the risk of new HIV infections.
Feedback from this survey also enabled WVE to identify gaps such as stigma associated with family planning which hinders service uptake and also built trust as target populations engage with WVE staff.
The beneficiary survey provides substantive qualitative insights that complement quantitative data, offering a full picture of HIV prevention program outcomes.
Conclusions/Next steps: Beneficiary satisfaction surveys ensure that HIV prevention interventions are sustainable, impactful and inclusive. They also enable programs to effectively allocate resources and help normalize discussions about HIV prevention, reducing stigma in the different communities. This survey enables WVE to come up with community-driven solutions, ensuring sustainability of rolled out HIV prevention interventions.

EP0690

Addressing advanced HIV disease (AHD) within the HIV sector through community-based screening initiatives in Zimbabwe

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Background: AHD represents a critical challenge in the global fight against HIV/AIDS. Despite progress in antiretroviral therapy (ART), late diagnosis of HIV is still common in marginalized rural communities in Zimbabwe. AHD requires a comprehensive approach focused on accessibility, education, and support for timely interventions. Community-based screening is essential for early identification and connection to care.
Methods: In December 2024, under the Global Network of People living with HIV (GNP+) grant, we trained 30 AHD champions from 30 rural health facilities in Mutasa, Hwange, and Mazowe districts, Zimbabwe. These champions pre-screened and facilitated referrals for potential AHD cases using a digital screening tool in CommCare. They used electronic tablets to record screenings, referrals, and follow-ups, collecting data on various health indicators, including viral load, CD4 count, clinical management, and ART adherence. Referrals included necessary tests for viral load, CD4 count, and opportunistic infections(OI). The AHD Champions served as vital links for referrals, appointment scheduling, and follow-up care in CommCare.
Results: A total of 210 clients were screened, with specific attention given to those at risk of AHD. The screening process Among the screened clients, 3 had not undergone a viral load test in over a year, and 2 had never been tested. Additionally, 9 clients had not had a CD4 test in more than a year, while 11 had never been tested. Notably, 2 clients had stopped ART, with only 1 returning to treatment. Following these screenings, referrals for viral load testing and CD4 count assessments were made, alongside referrals for clients returning to treatment. Subsequent follow-ups revealed that 4 clients had AHD, indicated by viral load results exceeding 1000 copies.
Conclusions: ZNNP+ has made significant strides in reducing AHD through targeted community efforts in the three districts. The proactive screening and referral processes facilitated by AHD Champions have not only identified at-risk individuals but also enhanced their access to essential health services. Continued follow-up, counseling sessions, and education on adherence are crucial for sustaining these gains and improving health outcomes for individuals living with HIV.

EP0691

Co-creating HIV prevention campaigns with communities: lessons from the Time Up HIV Campaign in Uganda

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Background: Uganda has made progress in HIV prevention, yet challenges like message fatigue, fragmented communication, and stigma persist, undermining efforts to achieve the UNAIDS 95-95-95 targets. Small, disconnected campaigns dilute impact, and stigma—especially around interventions like PrEP—remains a barrier.
The *Time Up HIV* campaign introduced an umbrella platform to streamline messaging, enhance collaboration, and mobilize communities through gatekeepers, aligning efforts with Uganda's national HIV priorities.
Description: The campaign involved participatory collaboration with the Ministry of Health, USG Implementing Partners, CSOs, private sector players, and community representatives. A review of existing communication materials evaluated their relevance and effectiveness, while human-centered design workshops refined messaging for interventions such as VMMC, PrEP, cervical cancer screening, and HIV self-testing. This process prioritized inclusivity and cultural relevance, aligning the campaign with Uganda's health goals.
Lessons learned: The campaign achieved impactful results. Fidelity in implementation ensured effectiveness, while advanced audience segmentation allowed tailored messaging for diverse populations, including youth. Technical assistance strengthened stakeholders' capacity, and integration across thematic areas minimized fragmentation and optimized resources. Digital media innovations expanded reach, especially among Uganda's young people.
Conclusions/Next steps: Scaling the umbrella platform will streamline messaging and reduce fatigue. Strengthening collaboration among stakeholders will enhance integrated service delivery.
Digital innovations should continue targeting youth, while quality improvement practices like the iDARE methodology ensure adaptability. Inclusive community engagement will reduce stigma and foster ownership, driving Uganda closer to achieving its HIV goals.

EP0692

Healthy Happy Human (HHH) show: a youth-led initiative for health education through digital platforms

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Background: The widespread adoption of digital media has revolutionized the way health information is consumed, particularly among Nigerian youth. However, this digital landscape is marred by fraudulent health information, misinformation, and misconceptions that disproportionately target young people, exacerbating the HIV epidemic and other health challenges.
To address this growing concern, the Healthy Happy Human (HHH) show was launched as a targeted intervention aimed at combating health misinformation, providing accurate health information, and enhancing health awareness among Nigerian youth, with a special focus on HIV prevention, treatment, and management.
This initiative seeks to leverage digital media to promote health literacy, informed decision-making, and behaviors that reduce the risk of HIV transmission and improve overall health outcomes among young people in Nigeria.
Description: Healthy Happy Human (HHH) employs a multi-faceted approach to achieve its HIV-focused objectives. The show features expert-led discussions in the form of one-on-one talk shows with young medical professionals, who educate audiences on HIV prevention, treatment, and management.
Additionally, informal HIV-focused dialogues (vox-pops) are conducted with young individuals in urban hotspots and university settings, aimed at exploring HIV-related misconceptions and providing corrective HIV education. These engagements are recorded and disseminated via digital media and social platforms, amplifying the show's reach and impact. HHH encourages active involvement of young participants in its production and dissemination processes, promoting a sense of ownership and community in the fight against HIV.
Lessons learned: The HHH show has reached over a hundred thousand people, results form surveys, focus groups and digital metrics demonstrate improved health literacy, awareness, and community engagement.
Culturally relevant content and interactive elements are key to sustaining interest, while popular digital platforms, social media and strategic partnerships with organizations are crucial for program sustainability and amplifying health education initiatives.
Conclusions/Next steps: The surge of HIV-related misconceptions and misinformation online necessitates a trusted source of health information.
Our initiative, Healthy Happy Human (HHH), bridges this gap by providing accurate HIV education, engaging people, and fostering partnerships with NGOs and organizations to establish a forefront for reliable HIV and health information dissemination to young people in Nigeria.

EP0693

Harmonized community led monitoring strategy – a critical tool in identifying gaps in service delivery and advocating for improved programme outcomes in Sierra Leone

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Background: Community-led monitoring is a collaborative approach to tracking and evaluating services and programs, primarily led by affected communities. Community participation in designing, planning, implementing, and monitoring of health programmes is critical for achieving universal health coverage. In 2024, a harmonized Community-led monitoring strategy covering HIV, TB, malaria, hepatitis, mental health, human rights and pandemic preparedness was developed for Sierra Leone and country one of the first to have an integrated CLM strategy.

Description: Community-led monitoring (CLM) has emerged as an effective tool to strengthen community leadership and contribute to the quality and accessibility of care. CLM is a process in which communities, especially people who use health services, take the initiative to identify and regularly monitor the issues that matter to them. Communities define indicators to track priority issues, receive training to collect data and analyze results, and engage with a broader group of stakeholders to share insights from the data to co-create solutions.CLM programs are accountability mechanisms designed, led, and implemented by local community organizations run by the communities themselves, using structured platforms and rigorously trained peer monitors to collect quantitative and qualitative data. World Vision International Sierra Leone (WVISL) the Principal Recipient (PR) for implementing the HIV/AIDS component of the Global Fund for HIV/AIDS, TB, and Malaria under the Grant Cycle Seven (GC7) will work with NETHIPS to implement Community-Led Monitoring (CLM) in Sierra Leone. Part of the work includes development of a CLM strategy for Sierra Leone.

Lessons learned: Community members when involved from the onset of any activity are willing to ensure that the aims and objectives are met. The development of this strategy was carried out through a review of already existing documents at national and international levels and a participatory and multisectoral approach with national stakeholders in Sierra Leone. This process took place in four stages: Desk review, Strategy development Consultative meetings with community members, Key Informant interviews (KII), Strategy validation workshop and Trainings

Conclusions/Next steps: CLM is a great accountability mechanism. Strengthening the implementation of CLM in Sierra Leone requires creating community ownership and ensuring robust coordination that puts service recipients are at the center for smooth implementation.

EP0694

Participatory methodologies: lessons learned from a youth-led social accountability approach to improving HIV/AIDS and SRHR services in Shibuyunji, Mumbwa and Luwingu Districts of Zambia

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Background: According to the 2024 Zambia Demographic and Health Survey, only 42% of young women and 43% of young men aged 15–24 reported having knowledge of HIV prevention, implying that more than half of the population have no adequate knowledge on HIV prevention. Additionally, Zambia's teenage pregnancy prevalence stands at 28% despite the various efforts to equip adolescents and young people with knowledge on HIV/AIDS and sexual reproductive health.

Description: Copper Rose Zambia collaborating with USAID MCGL,is implementing the Youth-led social accountability activity in selected districts of Northern and Central provinces. The aim is to empower adolescents and young people with skills to hold public officials and service providers accountable for the provision of quality, equitable, and accessible healthcare and health education in sexual reproductive health, including HIV/AIDS to adolescents and young people. In the baseline assessment, a participatory approach using a community scorecard was employed, utilizing net mapping to identify and visualize key stakeholders, their influence and to gather structured youth feedback on service quality, fostering dialogue with providers. Bi-monthly review meetings are being conducted to review implementation of action points, address challenges and refine strategies. An endline assessment will be done and a technical brief with all the findings documented.

Lessons learned: Youth-led advocacy demonstrated its effectiveness in improving HIV/AIDS service delivery by addressing barriers such as underrepresentation, stigma, insufficient privacy, and staff shortages. Engaging and training healthcare providers and community gatekeepers created a shared accountability framework, improving trust and responsiveness in addressing youth access to family planning, HIV testing and treatment.
Adaptive management achieved through after action reviews ensures emerging gaps are addressed in real time, fostering a more supportive environment for adolescents and young people seeking SRHR services. The trained youth champions lead the advocacy efforts, ensuring continuity and long-term impact.

Conclusions/Next steps: The adolescents and young people developed trackable indicators and action points to address the identified gaps in provision of quality, equitable, and accessible healthcare and health education in sexual reproductive health, including HIV/AIDS, ensuring that youth voices and priorities are heard.

EP0695

HIV prevention, testing and treatment through the eyes of Zimbabwean social media influencers: a digital ethnography study of content posted between 2020 and 2023

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Background: Misconceptions about HIV/AIDS contribute to the spread of HIV and constrain uptake of preventive services. Social media platforms are being used increasingly as part of HIV prevention and treatment efforts, hence, with the increasing usage, their influence can impact on HIV services. Social media influencers tend to have broader reach.
This study investigates content on HIV prevention, treatment, and care that was generated by Zimbabwean social media influencers with over 100,000 followers.
Methods: A retrospective digital ethnographic approach was used. Framing analysis was used to analyse qualitative data for posts from Facebook, Tik Tok and Twitter. Posts included videos, text content, pictures made between January 2020 and June 2023. Analysis was done on original content by the influencers.
Results: From the 59 posts analysed by 36 influencers, 4 posts were sponsored by partners and government agencies in the HIV implementation space. Many of the posts focus on spreading awareness about HIV and AIDS, discussing prevention methods like condom use, taking PrEP (Pre-Exposure Prophylaxis), and adhering to antiretroviral therapy (ART).
Influencers living with HIV shared personal experiences of individuals living with HIV, discussing challenges they face, coping mechanisms, and the importance of seeking support and not letting their condition define their identity. Sponsored posts covered HIV prevention, ARV adherence and condom promotion. One post on PrEP violated regulations in the Medicines and Allied Substances Act.
Conclusions: Social media influencers are generating content on HIV prevention, treatment, and care. Although the information shared by influencers has a wide reach, some of the information shared is not scientifically plausible and in one instance, illegal influence.
Considering forming ongoing partnerships with influencers to maintain consistent HIV awareness efforts over time. Long-term engagement can have a more lasting impact on the audience and reinforce key messages.
Collaborating with influencers who have credibility and authenticity when discussing health-related topics. Influencers with personal experiences related to HIV, or those who are knowledgeable in the field, can establish trust and credibility among their followers, making the information more relatable and impactful.

EP0696

Hagamos Comunidad, a strategy of differentiated services for key populations in social vulnerability in Mexico City

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Background: The living conditions for some key populations in the center of CDMX, such as sex workers or homeless people, hinder access to health services, which is why strategies are needed to involve these populations in accessing their right to health. The Inspira Cambio A.C. Community Center is located in one of the neuralgic points of impact for these populations, however, those who practice sex work did not respond to our invitation to sexual health services. In view of this, we decided to implement a strategy of differentiated services in situ.
Description: Seven community sexual health days were held in two sex work sites in the Cuauhtémoc district of CDMX, four in Tabacalera (sex work for cis women and trans women) and three in the Ciudadela (sex work for men who have sex with men).
Counseling, STD Testing (HIV, Syphilis, HCV), PrEP (pre-exposure prophylaxis) and PEP (post-exposure prophylaxis) services were provided.
Prevention supplies: condoms and lubricants. Food and clothing. People were given the option of deciding which services and supplies to access without conditions.
Lessons learned: A total of 165 people were reached. 53.94% (89 people) agreed to be tested. Eighty-two individuals were tested for HIV (4 reactive results), 85 were tested for syphilis (2 reactive results) and 22 individuals reported substance use and agreed to be tested for HCV (3 reactive results). The reactive cases were concentrated in two of the populations reached: trans women and MSM. And currently 5 people are already on PrEP treatment in the organization.
Conclusions/Next steps: With the results obtained, we observed that the direct approach in the field can build a relationship of trust with the populations: they know us, they locate us and thus we can generate more and more security for them to also come to Inspira and receive continuous care. And the opportunity to establish community ties where key sex workers serve as a link and support for their self-care. This strategy led to a community mobilization of care and mutual accompaniment.

EP0697

Bridging gaps in HIV awareness and adolescent health: perspectives of faith-based leaders in Keffi and surrounding rural communities

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Background: Religious leaders play a pivotal role in shaping community health attitudes, yet their involvement in HIV prevention and adolescent health remains underexplored. This study investigates the awareness, knowledge, and engagement of ordained pastors in Keffi and its rural suburbs regarding HIV testing options and adolescent health.
Methods: A total of 65 pastors participated in an enlightenment program, which included surveys and discussions aimed at assessing their familiarity with HIV testing, particularly HIV self-testing, and their role in promoting health among their congregants.
Results: The findings revealed significant gaps in knowledge: only 12 pastors (18.5%) were aware of the OraQuick HIV self-testing kit, 3 pastors (4.6%) had seen it, and none had used it or understood its application. Despite being familiar with blood-based HIV testing, pastors were less aware of alternative testing methods.
Regarding health discussions, only 29 pastors (45%) had addressed general health issues with their congregants in the past year, and only 13 pastors (20%) included HIV-related topics.
More concerning, none of the pastors had initiated any programs focused on adolescents' and young people's health, despite 49 pastors (75%) acknowledging they were aware of the HIV statuses of some members of their congregation. This neglect of adolescent health, despite the high vulnerability of this group, underscores a significant gap in religious and health education.
Conclusions: The study highlights the urgent need for training and empowering faith-based leaders with accurate health information and resources to address HIV prevention, adolescent health, and the promotion of HIV self-testing in their communities.
By integrating health education into church programs and fostering collaboration between faith-based organizations and health institutions, this research proposes an effective strategy to enhance HIV awareness, improve health outcomes, and reduce stigma in rural and underserved populations.

Key populations and other vulnerable populations: Behavioural, social, cultural, structural and multilevel issues, contexts and interventions

EP0698

Cultural perspectives on aging well with HIV among Two-Spirit and Indigenous LGBTQ+ people living with HIV

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Background: Despite their vital roles in preserving knowledge and traditions, Two-Spirit and Indigenous LGBTQ+ (2S/LGBTQ+) people face disproportionately high rates of HIV/AIDS compared to their white counterparts. Over the past 30 years, advancements in treatment have increased the number of Indigenous 2S/LGBTQ+ people living with HIV (PLWH) in the U.S. and Canada, a trend expected to continue as 70% of PLWH will be over age 50 by the end of the decade. Yet, their perspectives remain largely ignored in social and behavioral research, which often prioritizes prevention over addressing the challenges of aging with HIV.
This qualitative study explored diverse aging trajectories and meanings of aging well with HIV among Indigenous 2S/LGBTQ+ PLWH.
Methods: This study, led by an Indigenous doctoral student, employed a Two-Eyed Seeing approach to integrate Indigenous and Western research methods, ensuring cultural sensitivity throughout the process. In-depth life review interviews were conducted with 15 Indigenous Two-Spirit and LGBTQ+ individuals living with HIV, aged 35 and older, using both in-person and Zoom formats.
Narrative analysis methods were employed to better understand intersectional health disparities, and to understand how participants make sense of their experiences and the world by interpreting the stories they tell.
Results: Numerous themes emerged across participant narratives. First, culture served as a mediator for acceptance of participants' HIV diagnoses and adherence to antiretroviral medication (ART), promoting healthy aging with HIV. Second, Indigenous cultural generativity, passing down cultural knowledge to younger generations, played an important role in aging well with HIV.
Finally, HIV served as a "gift" or "messenger" in the lives of participants, allowing them to alter their life trajectories, "get on the right path", and become connected to their life's purpose, which often included Two-Spirit community activism and HIV advocacy.
Conclusions: These findings highlight the importance of leveraging cultural connectedness and Indigenous cultural generativity to inform culturally tailored HIV care and support strategies to address intersectional health disparities and promote wellness among Indigenous 2S/LGBTQ+ PLWH across the lifespan.

EP0699

A systematic review of intimate partner violence among sexual minority men in sub-Saharan Africa: implications for HIV prevention and care

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Background: Sexual minority men (SMM) in sub-Saharan Africa (SSA) are particularly vulnerable to intimate partner violence (IPV) due to social stigma, entrenched societal discrimination, and insufficient access to affirming support systems. Despite this heightened vulnerability, there is limited evidence synthesizing the scope and drivers of IPV, and its associations with HIV prevention and care outcomes among SMM in the region.
This systematic review aims to examine the prevalence and patterns of IPV, identify the social, structural, and behavioral factors associated with IPV, and describe the associations between IPV and HIV risk, prevention, and care outcomes in SMM in this region.
Methods: A systematic review was conducted following the PRISMA guidelines, including published studies on IPV among SMM in SSA. Data extraction was performed to collect information on study characteristics, IPV prevalence, associated factors, and health-related outcomes, including engagement in HIV prevention and care services. A thematic analysis was used to synthesize evidence on patterns and themes related to the experiences of IPV and its relationship with HIV prevention and care outcomes.
Results: Seventeen out of 121 records met the inclusion criteria, including five conducted in South Africa, two in Kenya, two in Nigeria, one in Zimbabwe, one in Namibia, and six multi-country analyses. The reported prevalence of IPV victimization ranged from 7.3% to 69.2%, with only one study reporting a perpetration rate of 10.2%. Key factors influencing IPV included relationship dynamics, internalized homophobia, childhood abuse, and social discrimination. IPV was associated with behaviors increasing HIV risk, such as condomless anal sex and engagement in transactional sex.
Notably, none of the studies examined the associations between IPV and HIV testing, PrEP utilization, or the impact of IPV on antiretroviral therapy adherence.
Conclusions: This systematic review highlights a limited but critical body of literature on IPV among SMM in SSA, demonstrating its association with adverse health outcomes, including increased HIV risk and vulnerability. Significant gaps remain regarding the integration of strategies to address IPV into HIV prevention and care.
These findings underscore the urgency of integrating IPV considerations into HIV prevention and care policies and practices to improve the health and well-being of SMM in SSA.

EP0701

COVID-19 vaccine uptake, barriers and facilitators among key populations living with HIV/AIDS in Rivers State: a cross-sectional quantitative study

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Background: HIV/AIDS and COVID-19 disproportionately impact key populations, including men who have sex with men (MSM), female sex workers (FSW), and people who inject drugs (PWID). This study evaluates COVID-19 vaccine uptake and the barriers and facilitators influencing COVID-19 vaccine uptake among key populations living with HIV/AIDS in Rivers State, Nigeria.
Methods: A key population-based cross-sectional study employed purposive sampling to recruit 458 participants from one-stop shops between April – June 2024. The study was carried out among key populations (MSM, FSW and PWID) living with HIV/AIDS in Rivers State, Nigeria. Data collection tools were integrated into a Kobo database. SPSS version 27 (IBM, Armonk, USA) for descriptive and inferential statistics (Chi-square and bivariate logistic regression) analysed vaccine uptake and associated factors, with significance determined at $p < 0.05$.
Results: The study population comprised 26.6% FSW, 40.8% MSM, and 32.5% PWID. The COVID-19 vaccine uptake was moderate at 54.1%, with Pfizer-BioNTech (43.5%) and Moderna (22.2%) being the most administered vaccines. However, only 25.4% received two doses, and 21.8% had booster doses. Key barriers included lack of information (90%), vaccine side effects concerns (91.4%), and distrust in vaccine safety (95.2%). Concerns about vaccine compatibility with HIV/AIDS treatment were cited by 94.1% of MSM, 80.3% of FSW, and 79.2% of PWID.
Facilitators included informational campaigns (97.4%) and enhanced healthcare access (96.8%). Younger participants, those with shorter ART durations, single individuals, and unemployed participants showed significantly lower vaccine uptake (χ^2 = 48.266, 37.689, 28.131, and 62.136; $p < 0.001$). Barriers such as stigma, cultural beliefs, and religious concerns significantly influenced vaccine hesitancy.
Conclusions: Moderate vaccine uptake highlights gaps in COVID-19 vaccination among key populations. To improve vaccine confidence and uptake, tailored interventions addressing stigma, misinformation, and access barriers

are recommended. Leveraging community leaders and integrating vaccines into HIV/AIDS care programs can enhance acceptance and delivery.

EP0702

Success rate of discreet HIV intervention for key populations through virtual health platforms: the Centre for Population Health Initiatives experience, Nigeria

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Background: Key Populations (KPs) in Nigeria, including men who have sex with men (MSM), people who inject drugs (PWID), and female sex workers (FSW), face disproportionately higher HIV prevalence rates compared to the general population. Criminalization, stigma, and limited access to key population-friendly centers with comprehensive HIV prevention and treatment services exacerbate these challenges.
The Centre for Population Health Initiatives (CPHI) implemented innovative virtual health platforms to address these barriers and ensure discreet, inclusive, and comprehensive care for KPs.
Methods: With support from the Henry Jackson Foundation Medical Research International, Nigeria, and funding from the US President's Emergency Plan for AIDS Relief, CPHI launched its web portal – "cphinigeria," in October 2020 to facilitate virtual consultations, behavior change communication, and linkage to care to its one-stop-shop center managed by health care workers trained to provide culturally sensitive services to key populations in Lagos, Nigeria.
Complementary social media tools such as Instagram X, Facebook, TikTok, Zoom, Google Business Workspace, WhatsApp, and Telegram were employed for peer-led support groups, direct communication, and ongoing client follow-up with trained peer educators and healthcare workers,
Results: Between October 2020 and September 2024, 12,700 KPs utilized these platforms. Among those counseled, tested, and who received HIV results, 98% were aged 16–35 years. HIV positivity rates were 9.4% among MSM, 8.2% among FSW, and 1.0% among PWID.
Of the 1,242 seropositive clients identified, 100% were initiated on treatment and are currently on antiretroviral therapy (ART), and over 48% actively participate in virtual support groups hosted on the CPHI virtual platforms.
Conclusions: The integration of CPHI's virtual spaces and web portals has significantly increased service utilization among KPs, demonstrating the potential of virtual health models to overcome barriers and enhance HIV care. This success instills confidence in the effectiveness of virtual health platforms and reassures us of their potential to achieve the UNAIDS 95-95-95 targets and halt the spread of HIV.

EP0703

Opportunistic infections affecting men who have sex with other men in Kenya and are living with HIV/AIDS

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Background: Men who have sex with other men (MSM) in Kenya represent a key population disproportionately affected by HIV/AIDS. Due to higher rates of HIV acquisition and inadequate access to timely medical care, MSM living with HIV are at increased risk of opportunistic infections (OIs). These infections, which are a major cause of morbidity and mortality among individuals with compromised immune systems, remain a significant public health concern in Kenya. However, limited data exists on the specific burden of OIs among MSM with HIV in major Kenyan cities, including Mombasa, Nairobi, Nakuru, and Kisumu.
This study aimed to assess the prevalence and types of opportunistic infections affecting MSM living with HIV in these urban centers, and to identify associated factors that may inform prevention and treatment strategies.
Methods: A cross-sectional study was conducted in Mombasa, Nairobi, Nakuru, and Kisumu between January and July 2024. A total of 400 HIV-positive MSM participants, aged 18-45 years, were recruited from HIV clinics, community health centers, and MSM support organizations. Data were collected through structured questionnaires on demographics, HIV treatment adherence, sexual behavior, and history of opportunistic infections.
Clinical examination and laboratory tests were conducted to identify the presence of OIs, including tuberculosis, candidiasis, pneumocystis pneumonia, cryptococcal meningitis, and toxoplasmosis.
Results: Among the 400 MSM participants, 56% were diagnosed with at least one opportunistic infection. The most common OIs included candidiasis (28%), tuberculosis (22%), pneumocystis pneumonia (15%), and cryptococcal meningitis (12%). Factors such as low CD4 count, inconsistent HIV treatment adherence, and late HIV diagnosis were significantly associated with a higher risk of OIs. MSM who reported higher rates of unprotected anal intercourse and multiple sexual partners had a 40% higher likelihood of presenting with OIs. Urban centers like Nairobi and Mombasa had higher rates of OIs compared to Nakuru and Kisumu, likely due to better access to HIV testing and healthcare services.
Conclusions: The study highlighted the need for enhanced HIV care and prevention programs that address both the medical and social needs of MSM.
Key interventions should focus on improving HIV treatment adherence, regular health check-ups, and early detection of OIs.

EP0704

Breaking the cycle: tackling HIV vulnerability among refugee women and girls in South Western Uganda

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Background: Refugee populations in South Western Uganda face unique vulnerabilities to HIV acquisition, especially among women and adolescent girls. Despite ongoing HIV prevention and care efforts, these groups experience heightened risks driven by entrenched gender inequalities, stigma, limited healthcare access, and economic hardship. Existing research in refugee settings often lacks a focused understanding of the interplay between social and structural drivers specific to women and girls, leaving critical gaps in targeted intervention strategies.

This study addresses these gaps by analyzing how social norms, structural barriers, and systemic inequities contribute to HIV vulnerability and identifies actionable, community-driven solutions to mitigate these risks.

Methods: Between January 2023 and June 2024, a cross-sectional mixed-methods study was conducted in Nakivale Refugee Settlement, South Western Uganda. The study involved 600 participants, including 400 women (ages 15–49) and 200 adolescent girls (ages 10–19). Quantitative data was collected through structured surveys assessing HIV knowledge, healthcare access, and risk behaviors, while qualitative data were gathered via focus group discussions and interviews with healthcare workers, community leaders, and refugee women.

Quantitative data was analyzed using descriptive and inferential statistics, and qualitative data underwent thematic analysis to explore recurring patterns.

Results: The study revealed stark gaps in HIV prevention knowledge, with 67% of women and 53% of girls lacking comprehensive understanding. Structural barriers, including long distances to healthcare facilities (72%) and economic challenges (81%), were significant obstacles to HIV testing and treatment. Social drivers, such as stigma, gender-based violence, and early marriages, compounded risks, with 43% of adolescent girls reporting forced or early sexual experiences. HIV prevalence stood at 11% among adult women and 6% among adolescent girls, with fear of stigma and cultural taboos cited as primary deterrents to seeking testing/care.

Conclusions: This research underscores the critical need for tailored, gender-responsive interventions to address HIV vulnerability among refugee women and girls. Key recommendations include improving healthcare accessibility, empowering women economically, reducing stigma through community-based education, and integrating culturally sensitive approaches into HIV programming.

Addressing these structural and social drivers not only reduce HIV-related risks but also promote behavior change and inform sustainable policies for equitable HIV outcomes in refugee contexts.

EP0705

Improved PrEP uptake among adolescent girls and young women through focused site support: lessons learnt from Matabeleland North Province in Zimbabwe from October 2023 to September 2024

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Background: Adolescent girls and young women (AGYW) are at high risk of HIV, yet uptake of pre-exposure prophylaxis (PrEP) remains low in the four Determined Resilient Aids-free Mentored Safe (DREAMS) districts in Matabeleland North, Zimbabwe. PrEP access was hindered by stockouts, poor documentation and inadequate use of electronic Logic-Management-Information-Systems (eLMIS), and community stigma.

Despite Health care workers (HCW) efforts to mobilize AGYW for PrEP, uptake remained suboptimal highlighting the need for expert support from district teams.

Description: From October 2023 through September 2024, district officers from Pangaea Zimbabwe and Ministry of Health and Child Care conducted support visits to fifty facilities. Experts in pharmacy and community health provided training for HCW on eLMIS to address supply-chain issues. Capacity-building for HCW focused on clinical-community-linkages and service-delivery; experienced clinicians provided mentorship through one-on-one coaching and quality improvement initiatives.

Lessons learned: In Quarter1 monthly AGYW PrEP new users increased from 4 to 350, sustained throughout year by community education and public campaigns to boost knowledge. Support led to significant service improvements: Integrating PrEP services into existing health programs (immunizations, family-planning, antenatal and postnatal care), repackaging PrEP into more user-friendly formats such as drug envelopes, door-to-door deliveries for clients who missed appointments or were not due for testing, and conducting community awareness sessions to reduce stigma and increase support for PrEP improved PrEP uptake. Monthly quality-improvement visits, performance reviews, and use of evidence-based-strategy adjustments allowed for continuous improvement. Improved eLMS utilization led to improved stock status, continuous quality-improvement, streamlined PrEP ordering, stock management and documentation facilitated open communication supporting higher uptake among AGYW. Addressing supply chain issues, expanding PrEP service delivery points, and providing ongoing mentorship to HCW assisted with sustaining progress.

Conclusions/Next steps: Use of person-centered-care models and a robust supply chain improved continued PrEP uptake. For long term success, the program can maintain external support to enhance outcomes. PrEP literacy sessions can be used to reduce stigma and gaining support from husbands and in-laws, contributing to greater uptake and improved social acceptance. The program in Matabeleland North plans to continue with community engagement and public awareness campaigns to reduce stigma among AGYW

EP0706

Challenges and facilitators to safe sexual and reproductive health practices among adolescents living with HIV in Mandalay, Myanmar

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Background: Adolescents living with HIV have many challenges concerning sexual and reproductive health (SRH) due to stigma, knowledge gaps, and limited access to supportive healthcare services. This study aimed to identify the key barriers and facilitators to safe SRH practices among adolescents living with HIV, focusing on individual, social, and systemic factors that influence their SRH behaviors.

Methods: A qualitative cross-sectional design was done. There were 45 adolescents living with HIV in the study from different HIV clinics. Semi-structured interviews and focus group discussion were carried out. Thematic analysis was conducted to identify recurring patterns and insights from the data.

Results: Challenges to safe SRH practices consisted of stigma, fear of disclosure, poor SRH knowledge, lack of adolescent-friendly healthcare services, peer pressure and issues of mental health. Factors that aid in overcoming these challenges included strong relationships with healthcare providers, peer support networks, family engagement, and access to SRH counseling and educational resources.

Additionally, gender and age differences underscored distinct challenges and priorities among adolescents.

Conclusions: The study highlighted the requirement of policies and programs that provide SRH into user-friendly services for adolescents living with HIV in Myanmar. Comprehensive interventions addressing stigma, poor knowledge and healthcare access, will improve SRH outcomes.

EP0707

Assessing factors associated with antiretroviral treatment discontinuation among female sex workers in 12 drop-in centers, Malawi

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Background: Despite a 91% in ART coverage in Malawi. High viral load among key populations is still being registered due to poor adherence to antiretroviral therapy (ART). This study aims to assess the factors influencing ART discontinuation amongst female sex workers enrolled on ART.

Methods: Retrospective cohort study was conducted using data from a total of 256 female sex workers and clients of female sex workers who were on Intensive adherence counseling between 2019 and 2024. Data was collected during Intensive adherence counseling sessions conducted by Clinicians through qualitative interview.

The study was carried out among Female sex workers and their clients on ART who registered a high viral load of more than 1000 copies/ml and on Intensive adherence counseling. Purposive sampling was used to select a defaulter from 12 drop-in centers Malawi. Chi-square was used to assess frequency distribution in R software.

Results: Results showed that there were 245 female sex workers and 11 clients of female sex workers. Out of those the age group of 26-35 had (125, 49%), followed by 16-25 (68, 27%), then 36-45(51, 20%) and 46-65 (12, 5%).

A chi-squared test revealed significant differences among the factors ($\chi 2(df) = 337.91$, $p<0.001$) and these were mobility (87, 34%), non-disclosure of HIV-positive serostatus to partners (NDHPSS) (55, 21%), alcohol and substance abuse (50,20%), forgetting (28,11%), fear of side effects (16,6%), lack of food (10, 4%), lost medication (6, 2%) and pill burden (4, 2%).

Conclusions: Mobility, NDHPSS and alcohol abuse are the main factors contributing to ART discontinuation among female sex workers, suggesting more interventions to tackling adherence. There is need to intensify ART multi-month dispensation and incentivizing female sex workers to join support groups with interventions on Alcohol and drug rehabilitation.

EP0708

Spatial and structural determinants of HIV prevalence among adolescent mothers in Eswatini

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Background: In Eswatini, 85% of adolescent HIV diagnoses occur among girls (and risk of diagnoses is higher among mothers). There is significant subnational spatial variation in where these diagnoses occur. Structural determinants influence subnational-level HIV prevalence, and yet studies have not spatially linked structural determinants to subnational level HIV prevalence in this vulnerable population.

To understand spatial determinants of HIV prevalence which can guide tailored prevention strategies for AM, this study uses Bayesian spatial smoothing to map HIV prevalence and examine the associations between structural factors and HIV prevalence among adolescent mothers (AM) in Eswatini at the subdistrict-level, the second-level administration unit.

Methods: Data are drawn from the Population-based HIV Impact Assessment (PHIA) (2016-2017), comprising a sample of 135 AM (aged 15–19) across 55 subdistricts. Subdistrict-level factors included gender disparity in education (percentage-based ratio of male to female high school graduates among 18-24 year-olds), gender disparity in workforce (percentage-based ratio of male to female workforce participation among 18-24 year-olds), percent of households in poverty, mean travel time to a healthcare facility, male circumcision rate, percent of people who ever tested for HIV, percent of people living with HIV who were virally suppressed, and an interaction term between education disparity and percent of viral suppression. We used global Moran's I statistics to assess spatial autocorrelation of HIV prevalence. Associations were examined using spatial conditional autoregressive binomial models.

Results: Significant spatial clustering of HIV prevalence was detected (p-value=0.01). Among structural determinants, the main effects for education (ϐ=1.03; 95% credible interval (CI): 0.24,1.84) and gender disparities in workforce participation (ϐ=0.5; 95% CI: 0.001,1.004) were positively associated with HIV prevalence. An interaction between education and viral suppression effects was observed, suggesting that the positive association weakens in subdistricts with higher levels of viral suppression.

Conclusions: Results highlight the spatial heterogeneity of HIV prevalence among AM in Eswatini. Further, areas with higher gender inequities in education and workforce participation had higher HIV prevalence among AM. Interventions that address these structural inequities may reduce HIV prevalence among AM in Eswatini.

Further, structural-level interventions may be particularly important in areas with low levels of viral suppression.

EP0709

Impact of Anti-LGBTQ campaigns on STI incidence among MSM and transgender persons in Mombasa, Kenya: a case study of ICRHK

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Background: The Supreme Court ruling in March 2023, which granted the LGBTQIA+ community the right to associate, sparked a wave of homophobic protests and anti-LGBTQIA+ agitation in Mombasa, Kenya. These protests led to the profiling of MSM and TG individuals, forcing many into hiding and creating barriers to accessing HIV prevention and sexual reproductive health services.

The objective of this case study is to examine the association between anti-LGBTQ campaigns and the incidence of STIs among MSM and TG individuals in Kenya.

Methods: ICRHK conducted a retrospective review and analysis of clinical data collected between January 2023 and April 2024 from three key population Drop in Centers in Mombasa to identify the effects of anti-LGBTQ campaigns on STI and gender-based violence (GBV) prevalence among MSMs.

We compared trends before and during the anti-LGBTQ campaigns. We examined the number of STIs screened, diagnosed, and treated during this period.

Results: The findings revealed a significant increase in STI incidence among men who have sex with men (MSM), rising from 1.1% (9/799) to a peak of 4.4% (39/880) in September 2023, with the highest recorded incidence at 5.5% (24/435) in December 2023, coinciding with the peak of anti-LGBT protests and campaigns in Mombasa.

For transgender individuals, STI incidence increased from 0.7% (2/277) in January to 3.2% (11/34) in September, peaking at 3.7% (7/189) in April 2024.

Following ICRHK's intervention to establish a gender-based violence (GBV) response mechanism, the prevalence decreased to 2.1% (18/866) by September 2024.

Conclusions: The significant increase in STI incidence among MSM and transgender individuals during periods of heightened anti-LGBT sentiment indicates a strong correlation between social and political factors and health outcomes. The peak incidences during anti-LGBT protests suggest that stigma, discrimination, and violence can lead to increased vulnerability to STIs due to limited access to reproductive health services including STI/HIV prevention services.

EP0710

Developing an Unconditional Cash Transfer to Improve Post-Partum HIV Outcomes in Rural Haiti

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Background: Improving perinatal engagement in HIV care is crucial to prevent disease progression and transmission. Poverty contributes to poor perinatal outcomes globally, including in Haiti, and cash transfers are a promising intervention that alleviates poverty and may improve perinatal HIV outcomes through economic and psychological pathways.

Methods: We conducted semi-structured interviews of pregnant and postpartum people with HIV at St. Boniface Hospital in rural Haiti. We developed an interview guide with open-ended questions about barriers and facilitators to post-partum HIV care, and preferred characteristics of an unconditional cash transfer prototype for pregnant people with HIV.

We transcribed and translated the interviews from Haitian Creole to English. Transcripts were coded using a codebook developed through a combination of deductive and inductive coding, with 20% of transcripts coded by two investigators, to identify major themes.

Results: We interviewed 20 pregnant or postpartum women with HIV between 12/2023 and 5/2024 (50% pregnant, median age 24 years). Reported barriers to postpartum engagement in HIV care included ART side effects (particularly when not having food), interpersonal stigma from people in their neighborhood, poverty (e.g., difficulty coming to clinic), and food insecurity. (e.g., needing to focus on finding food).

Reported facilitators included motivation to protect the child's health, understanding the benefits of antiretroviral therapy, material support from the hospital, and social/family support.

Regarding the hypothetical cash transfer intervention, participants reported they would use it for immediate needs (particularly related to their children) or for small household business activities. Most participants were hesitant to provide an exact figure for the preferred total size of the cash transfer, but ultimately reported a median of $190, ranging from $19-$1000.

Some participants preferred to receive cash through a mobile phone payment method, whereas others preferred coming to the hospital cashier to pick up the cash, reflecting confidentiality concerns about other people becoming aware of their HIV status or being a cash recipient.

Conclusions: In a high poverty setting, pregnant and postpartum people with HIV reported a variety of barriers post-partum engagement in HIV care that could be addressed using unconditional cash transfers, particularly when linked to child needs.

EP0711

Preferences for on-demand/intermittent/event-driven and long-acting injectable (LAI) HIV pre-exposure prophylaxis (PrEP) among HIV-negative Black gay, bisexual, and other sexual minority men in the United States: a qualitative study

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Background: Black sexual minority men (SMM) are disproportionately affected by HIV and pre-exposure prophylaxis (PrEP) use reduces the risk of HIV acquisition. There is a gap in our understanding on the acceptability of and preference for on-demand and LAI-PrEP among PrEP-eligible Black SMM.

This study aimed to explore preference for on-demand and LAI-PrEP and reasons for those preferences among HIV-negative Black SMM of different PrEP use profiles.

Methods: Between March 2022 and April 2023, we conducted 17 focus group discussions with a total of 58 HIV-negative (current PrEP users, non-PrEP users, and PrEP discontinuers) Black SMM in the Washington D.C. metropolitan area. We explored acceptability and interest in on-demand and LAI-PrEP and anticipated barriers and facilitators to uptake.

Results: Most participants expressed a lack of interest in on-demand PrEP for various reasons. These sentiments were expressed after the moderators provided a brief overview of on-demand PrEP and the dosing strategy currently recommended by the CDC.

The reasons for lack of interest were:

1. Inability to accurately anticipate and plan for sexual activity in advance,
2. Uncertainty about effectiveness of on-demand PrEP, and;
3. Potential for unnecessary medication use, especially when anticipated sexual activity doesn't occur.

Most participants found LAI-PrEP to be highly acceptable and this can be attributable to:

1. LAI-PrEP being convenient, and;
2. LAI-PrEP being a potential solution to suboptimal adherence to daily oral PrEP due to forgetfulness.

However, there were still concerns around LAI-PrEP specifically around the fear of needles and novelty of this new PrEP modality.

Conclusions: While daily oral PrEP is the most utilized PrEP modality, some SMM—who might not be acceptable to oral PrEP—are capable of accurately identifying specific periods and circumstances of heightened risk for HIV infection. It is important that healthcare providers present on-demand PrEP as an option to individuals who fall into these categories. Programs to increase awareness and knowledge of LAI-PrEP among Black SMM and HCP that serve them are needed. It is imperative that HCP who provide PrEP services receive proper training on the administration of LAI-PrEP and that there is dedicated staff to help clients navigate the insurance process.

EP0712

Perceptions, acceptability, and utilization of HIV self-testing kits among young people in urban slums in Kampala: a mixed methods study

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Background: Globally, 14% of people with HIV are unaware of their status. HIV prevalence in African slums is reportedly double that of non-slum areas. HIV self-testing (HIVST) could help bridge testing gaps in these high-risk settings. This study assessed perceptions, acceptability, and use of HIVST kits among young people in Kampala's urban slums.

Methods: A mixed-methods cross-sectional study was conducted from February to May 2024 in Katanga Slum, Kampala, involving young people aged 15 to 24 who had resided there for at least six months. Simple random sampling was used. Quantitative data were collected using semi-structured questionnaires and analyzed with descriptive statistics and logistic regression.

Qualitative data from focus group discussions were analyzed using thematic content analysis. Written informed consent was obtained from all participants.

Results: Of the 267 participants (mean age 20.05 years, SD = 2.60), 62.9% were male. The willingness to use HIVST kits was 87.6%, and 43.1% had used them. Participants viewed the kits as accurate, and convenient, and valued their confidentiality, privacy, and stigma reduction.

Education level (OR = 2.02, 95% CI: [1.04, 3.94], p = 0.039), marital status (OR = 0.13, 95% CI: [0.02, 0.97], p = 0.046), prior HIVST awareness (OR = 3.42, 95% CI: [1.41, 8.28], p = 0.007), and family support (OR = 3.23, 95% CI: [1.40, 7.46], p = 0.006) significantly influenced willingness to use HIVST kits. Peer discussions (OR = 3.34, 95% CI: [1.81, 6.14], p < 0.001), kit availability (OR = 1.82, 95% CI: [1.02, 3.24], p = 0.040), and barriers to traditional testing (OR = 1.96, 95% CI: [1.09, 3.50], p = 0.023) influenced HIVST utilization. Qualitatively, privacy, confidentiality, convenience, cost, availability, accuracy, and trust in results were crucial for acceptability and use.

Conclusions: Strengthening education, improving kit availability, and fostering family and peer support are essential for increasing HIVST uptake among young people in urban slums. Addressing traditional testing barriers can further enhance HIV prevention efforts in these high-risk communities.

EP0713

Healthcare provider's experiences and perceptions caring for LGBTQ+ clients at a sexual and reproductive clinic in Uganda

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Background: LGBTQ individuals often encounter negative experiences when seeking medical assistance, resulting in unmet healthcare needs and negative health outcomes. Research in other countries has shown that healthcare providers have varying experiences when attending to LGBTQ clients seeking healthcare, with a predominance of negative experiences characterized by a lack of knowledge on LGBTQ health issues and related care, resulting in ineffective interactions and poor healthcare services. Research about the experiences of healthcare providers in Uganda offering services to LGBTQ individuals is limited, creating a gap in understanding their perceptions and experiences when providing care.

This study therefore explored healthcare providers' experiences and perceptions while caring for LGBTQ clients at a sexual and reproductive healthcare clinic in Uganda.

Methods: An explorative qualitative study was conducted between May and June 2024 at a sexual and reproductive healthcare clinic in Uganda. A purposive sampling technique was used to enrol 12 healthcare providers, including doctors (4), nurses (2) and counsellors (6).

We utilised a semi-structured in-depth interview guide for data collection. The interviews were conducted in English, transcribed verbatim and analysed thematically.

Results: Four main themes emerged regarding healthcare providers' perceptions of LGBTQ healthcare including professional healthcare, stigmatized populations, vulnerability to HIV and STI acquisition, and LGBTQ-specific health needs.

Healthcare providers reported having both negative and positive experiences. The positive experiences included the provision of quality healthcare, personal satisfaction and fulfilment, and continuous professional development. The negative experiences were characterized by inappropriate and disruptive client behaviour, challenges in healthcare communication and engagement, bias and prejudice, and gender non-inclusive language.

Conclusions: Healthcare providers should undergo training focused on LGBTQ issues, including cultural competence, sensitivity, and awareness to create a safe and welcoming environment for their clients. This encourages LGBTQ individuals to seek necessary health services, including HIV prevention and treatment.

Such a proactive approach not only improves individual client outcomes but also contributes to broader public health goals by controlling the spread of HIV within this high-risk population.

EP0714

Scaling up good practices in Nigeria's key population HIV programme: lessons learned

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Background: Scaling proven interventions is critical to addressing service gaps and improving health outcomes for key populations (KPs) in Nigeria, including Female Sex Workers (FSWs), Men who have Sex with Men (MSM), People Who Inject Drugs (PWID), and Transgender People (TG).
This study documents best practices from the national KP HIV programme, focusing on strategies that demonstrated measurable impact and scalability in underserved regions.
Methods: Using the Prevention Self-Assessment Tool Lite (PSAT Lite), polling booth surveys (PBS), and stakeholder interviews, successful interventions were identified and assessed for scalability. Key practices such as One-Stop Shop (OSS) models, peer-led outreach, and integrated HIV prevention services were evaluated. Desk reviews were conducted to analyze implementation data and identify operational gaps.
Results: Peer-led outreach was a standout strategy, achieving a 20% higher HIV testing uptake among MSM engaged in peer networks compared to those reached through conventional methods. OSS facilities demonstrated high impact, with 90% of enrolled clients achieving ART adherence.
Community engagement strategies were instrumental in increasing service uptake and reducing stigma among FSWs and PWID. However, only 65% of TG-focused programmes reached their target populations, highlighting inequities in service delivery.
Scalability assessments indicated that replicating these interventions in underserved regions could significantly enhance programme reach.
Conclusions: Nigeria's KP HIV programme offers scalable models that can improve health outcomes if replicated nationwide. Peer-led outreach and OSS models should be prioritized for expansion, with additional investment in TG-focused programmes to ensure equitable coverage. Sustained funding, training, and community involvement are essential for effective scale-up.
These lessons underscore the importance of leveraging successful practices to bridge gaps and achieve HIV epidemic control among KPs.

EP0715

Integration of mpox Surveillance at Bugiri Municipal Drop-in Center (DIC) supporting key populations in Bugiri District, Uganda

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Background: Mpox, a re-emerging zoonotic disease, presents significant public health challenges, particularly in high-risk and resource-limited settings. This study highlights the integration of mpox screening and management services at a drop-in center in Bugiri district, Uganda, after three suspected cases were identified at the center. The drop-in center serves key populations, including men who have sex with men (MSM), female sex workers, people who inject themselves with drugs and other priority populations.
Given the overlapping service populations and the heightened risk, urgent interventions were implemented to mitigate potential transmission and safeguard public health within this vulnerable community.
Description: The center established an integrated surveillance system to respond to the emerging mpox threat, focusing on the detection, management, and prevention of its spread among vulnerable populations.
The program's key components included continuous medical education to build healthcare workers' capacity, enhanced screening protocols to identify cases early, targeted health education to raise awareness, and the provision of handwashing materials to promote hygiene.
A robust referral system was put in place to ensure timely treatment of suspected cases, while ongoing data collection and monitoring using the community Mpox tracking tool allowed for trend tracking and informed decision-making to adapt the response as needed.
Lessons learned: During the initial 30 days of intensified mpox surveillance at the Bugiri Municipal Drop-in Center (DIC), 77 clients were screened, with no suspected cases identified. This outcome emphasized the effectiveness of enhanced screening protocols, healthcare worker training, and active community engagement in fostering timely health-seeking behaviors. The availability of sanitation supplies played a critical role in reducing transmission risks.
Continuous data collection facilitated timely interventions, underscoring the value of robust surveillance systems, efficient referral mechanisms, and preparedness in addressing emerging health threats among vulnerable populations.
Conclusions/Next steps: This initiative has shown the importance of integrating comprehensive surveillance systems in community-based centers to address emerging health threats like mpox.
Through effective screening, community engagement, and timely response, the DIC effectively mitigated the risk of further transmission and demonstrated the essential role of preparedness in managing public health emergencies.

EP0716

The crafting and implementation of HIV prevention program for people who inject drugs in Malawi

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Background: The 2022 Malawi National HIV Spectrum data estimated 27% HIV prevalence among people who inject drugs (PWID), the second highest rate after at-risk women (49%), but Malawi did not have specific HIV interventions for PWID.

In 2022, the government of Malawi, through the National AIDS Commission (NAC), requested that the FHI 360-led Meeting Targets and Maintaining Epidemic Control (EpiC) project guide the introduction of HIV interventions for PWID. EpiC outlined the steps involved in introducing these interventions for PWID in Malawi.

Description: By July 2023, FHI 360 conceptualized and executed a PWID program design premised on the health system pillars of the World Health Organization: governance and coordination, community engagement, capacity building, service delivery, data systems, policy, and the legal environment. Various activities, guided by these pillars, were implemented.

At a national level, activities included the facilitated establishment of a multisectoral PWID National Steering Committee (NSC) to oversee the introduction and rollout of the PWID program; a sponsored South-to-South learning tour to South Africa to prepare NSC members for their new role; and the development of guidelines, standard operating procedures, and a core package of services for use by health care workers. At community and facility levels, activities included PWID network mapping and community awareness on the safer use of needles.

By leveraging existing health service delivery points, 2,342 PWID were reached; 1,503 were tested for HIV, of whom 92 (6%) were newly diagnosed, and all 92 (100%) initiated antiretroviral therapy. Of the 1,411 who tested negative, 571 were offered pre-exposure prophylaxis (PrEP) and 384 initiated PrEP while awaiting the government rollout of a harm-reduction package.

Lessons learned: Government departments, including the NAC, were instrumental in making evidence-based decisions to introduce the PWID program. Implementing partners were an essential resource for the government in introducing the PWID program for HIV prevention.

Conclusions/Next steps: Innovations call for the government's commitment to initiate additional evidence-based HIV prevention interventions, such as the PWID program in Malawi. With technical assistance from FHI 360, the government is scaling up PWID interventions, including the introduction of the harm-reduction package of services.

EP0717

Back in care campaign to address interruption in treatment among people living with HIV in a Nomadic community, in Turkana County, Kenya: a quality improvement project

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Background: Continuity in HIV care is critical to ensure prompt treatment initiation, viral suppression, reduced transmission, and mortality prevention. Lodwar County Hospital serves 2,151 People Living with HIV (PLHIV), out of whom 74% had kept their last clinic appointment as of July 2024 which was below the recommended 95% target. We implemented a quality improvement project aimed at addressing the Interruption in Treatment (IIT) among the PLHIV.

Description: Using fishbone analysis, we identified low enrollment in Differentiated Service Delivery Models (DSDM), social-cultural barriers, poverty, and stigma as gaps. In July 2024, we implemented a quality improvement project with the following interventions: a back in care campaign (BIC) with activities including daily pre and post calling clients for their appointments, same day follow up of those who missed appointments including physical tracing.

Additionally, the client flow was reorganized to accommodate different DSDM which included scaling up of community antiretroviral groups (CAG) to capture cross-border migration, and smart scheduling to avoid cultural events. A health worker (HW) managed each of the CAG. The appointment management rate (AMR) was then reviewed after 6 months.

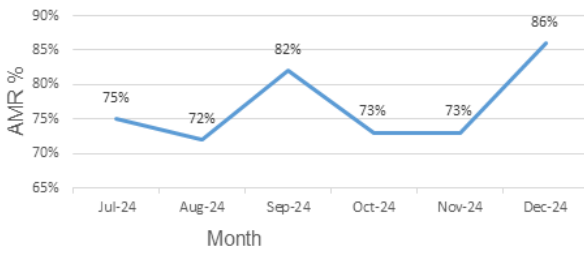


Figure 1. Proportion of clients keeping appointment per month.

Lessons learned: AMR improved from 74% to 86%. DSDM uptake of CAG and Fast track models improved from 34% to 39%. Among those who returned to care, 59% were female and 41% male. The reported attrition reasons were:

39% cited distance, 35% lacked transport, 15% feared disclosure, 9% long waiting time and 2% scared of HW rebuke. CAG reduced the clinic workload, however the cost implication to cover transport of the HW managing the CAG was significant due to region's vastness.

Conclusions/Next steps: Distance, poverty, stigma, and nomadism continue to hinder continuity in care. Training peers and community health workers to manage the CAG may reduce the transport costs. The project highlighted the importance of BIC strategies which were successful in reducing IIT.

EP0718

Exploring homelessness among LGBTQI+ persons in Nigeria

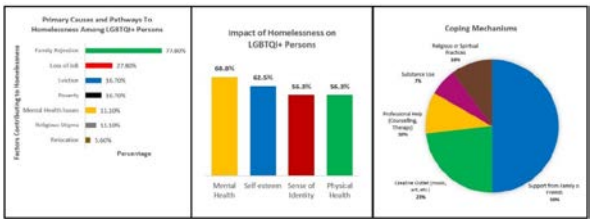
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Background: Homelessness stands as a pervasive global issue and a violation of human rights. Within the Nigerian context, LGBTQI+ persons are vulnerable to homelessness which is compounded by the intricate interplay of socio-cultural dynamics and legal frameworks.

This research aims to identify the primary causes and pathways leading to homelessness, the impact of homelessness on LGBTQI+ persons in Nigeria and coping mechanisms.

Methods: This research utilized a mixed-method approach of quantitative online surveys and qualitative focus group discussions (FGDs) and key informant interviews (KIIs) with a total of 48 LGBTQI+ persons aged 16-45 years in Nigeria. Quantitative data were analyzed using descriptive and inferential statistics that included t-tests, while thematic analysis was used for qualitative data. Findings were triangulated to explore different factors impacting homelessness. To protect the privacy and dignity of participants, ethical guidelines such as informed consent, confidentiality and cultural sensitivity were adhered to throughout the research process.



Results: Findings from the study revealed that 88.9% of LGBTQI+ participants experienced homelessness, with 77.8% identifying family rejection as the primary cause. Most participants (72.2%) aged were with low incomes (77.7% earning under ₦650,000/year) and unstable employment. Homelessness significantly impacted participants' sense of identity (56.3%), self-esteem (62.5%), and mental health (68.8%), as shown by statistical analysis ($p < 0.05$). Coping mechanisms included support from either family or friends (50%), creative outlets such as music and art (17%), professional help (10%), religion (10%), and substance use (6.7%). However, access to social and healthcare services was inadequate, with 100% dissatisfaction among participants.

Conclusions: The findings from this research reinforce that homelessness among LGBTQI+ persons in Nigeria is deeply intertwined with societal misconceptions about their sexual orientation. Highlighting the need for public education, policy reforms, and the establishment of supportive institutions and community-based programs to address the systemic barriers to LGBTQI+ homelessness.

EP0719

Types, perpetrators and prevalence of violence experienced by Female Bar Workers in Dar es Salaam

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Background: Violence against women (VAW) is a major health challenge worldwide, and is directly and indirectly linked to HIV acquisition, especially in key populations. Moreover, violence limits women's access to HIV prevention, testing and care services. Stigma and criminalization make women who have transactional sex particularly vulnerable to violence from intimate partners, clients, pimps and authorities. In sub-Saharan Africa, female bar workers (FBWs) frequently engage in sex work and face stigma as a result, putting them at higher risk for acquiring HIV. We therefore assessed the experience of violence against FBWs and its association to sex work in Ubungo district, Dar es Salaam, Tanzania.

Methods: We analyzed baseline self-reported data from a randomized controlled trial of service delivery models to increase initiation and retention of FBWs on oral HIV Pre-Exposure Prophylaxis in 2023-24. We calculated the prevalence of violence by type and perpetrator and tested whether engagement in transactional sex was associated with experiencing sexual or physical violence using Chi-square tests.

Results: Of 782 participants 55% reported being verbally abused, 29% reported physical abuse (mainly perpetrated by parents (51%) and non-client intimate partners (17%)) and 7% reported sexual abuse (primarily by male friends (46%) and non-client intimate partners (15%)) since age 15.
277 FBWs (35%) reported having had sex with a client from the bar with 72% receiving money, 11% gifts and 21% receiving neither. Those who had had sex with bar clients were no more likely to have experienced physical violence (32% vs 27%, $\chi^2 = 2.8$, p=0.09) but were more likely to have experienced sexual violence (10% vs 5%, $\chi^2 = 5.5$, p=0.02).
Conclusions: Female bar workers in Dar es Salaam do not appear to be at greatly elevated risk of violence compared to non-FBWs, despite almost one-third of them reporting transactional sex. The locus of violence experienced appears to be more in their home and social spaces than at their workplace, suggesting the need for multifocal interventions to reduce both VAW and HIV risk among FBWs.

EP0720

Facilitating transgender participation in efficacy trials – mixed methods study at HVTN clinical research sites in Peru conducting the Antibody Mediated Prevention Study (AMP)

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Background: Transgender women (TGW) in Peru bear the highest burden of HIV across all populations with a prevalence of 30%. Peruvian TGW experience higher rates of violence, fewer employment opportunities, and lack of access to health services and opportunities to participate in clinical studies. The Antibody Mediated Prevention (AMP) Study (HVTN 704/HPTN 085), a post-hoc analysis showed that a broadly neutralizing antibody against HIV did not protect against HIV acquisition, unless the HIV was sensitive to the antibody.
In this research, we sought to understand the experiences of clinical research sites (CRSs) working to engage TGW in Peru during AMP Study and the facilitators and barriers to trial participation they observed.
Methods: We conducted a mixed methods study administering 10-20-minute online surveys and 45–60-minute one-on-one semi-structured interviews with total of 9 Community Advisory Board (CAB) members, community educators/recruiters (CERs), and clinic coordinators at 2 sites in Lima and 1 site in Iquitos, Peru between November 2018 and February 2019. We assessed general knowledge regarding transgender health and services; bnAbs and PrEP; site resources and procedures for the recruitment and retention of transgender participants; capacity building needs; and additional information needed to inform work with transgender participants.
The Higher Enrolling (HE) site (n=1) had enrollment of transgender participants ³11%. Lower Enrolling (LE) sites (n=2) had enrollment of transgender participants ≤7%.
Results: Site staff across HE and LE sites perceived their sites as successful in recruiting and retaining transgender participants and also identified challenges. Across all sites, 2 key facilitators emerged: staff members created a welcoming environment and provided support. The top barriers experienced by TGW across the sites were stigma, transphobia, homophobia and discrimination; and lengthy study visits conflicted with work. Lack of legal protection for transgender people was identified at LE sites. At the HE site, transience of TGW was the most cited barrier.
Conclusions: It is necessary to continue researching best practices for engaging transgender populations in order to improve facilitators and address barriers. Due to the presence of stigma and discrimination against this community, continued efforts are needed to find optimal strategies that support meaningful integration of TGW in clinical trials

EP0721

Exploring HIV care disparities among foreigners in Taiwan: insights from a multicenter study (2017–2023)

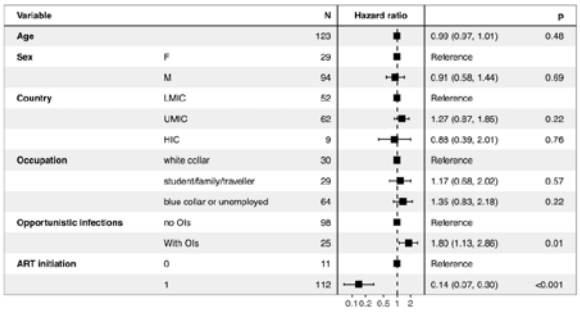
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Background: Restrictions on the entry and stay of foreigners with HIV (FWH) in Taiwan were lifted in 2015, however, barriers to HIV care remained, including a high cost of antiretroviral therapy (ART) and laboratory testing in the first 2 years when it was not covered by National Health Insurance. In this study, we aimed to investigate the quality indices of HIV care among FWH in Taiwan to explore the potential disparities.

Methods: FWH who first sought HIV care at 7 Taiwanese hospitals between 2017 and 2023 were included. The rates of ART initiation, retention in HIV care at 1 year, and virological suppression were calculated. Factors associated with discontinuation of HIV care within 1 year were analyzed with Cox proportional hazards model.

Results: We included 123 FWH with a median age of 32 years and a male-to-female ratio of 3:1. The majority (77%) were originated from Southeastern Asian countries. Among 79 ART-naïve FWH, the median CD4 at presentation was 273 cells/μL, 45.6% had AIDS, 86.1% started ART, and 48.1% remained in HIV care at 1 year with 84.2% of those remaining in care achieving plasma HIV RNA <50 copies/ml. Among the 44 ART-experienced FWH, only 76.3% had achieved virological suppression at the time of enrollment, while 72.7% remained in care at 1 year.

In the Cox proportional hazards model, having opportunistic illnesses was associated with earlier HIV care discontinuation (hazard ratio 1.80, 95% CI 1.13 – 2.86) while ART initiation was associated with retention in care (hazard ratio 0.14, 95% CI 0.07 – 0.30).



Conclusions: Late HIV diagnoses were common and substantial gaps in both ART initiation and retention in care were observed among FWH in Taiwan. More investigations are warranted to better understand the barriers to access to HIV testing and care to improve the quality of client-centered HIV care in this vulnerable population.

EP0722

What transgender communities need out of a person-centered care model integrating HIV: qualitative findings from India

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Background: India's transgender and gender diverse (TGD) populations vary considerably across socioeconomic status, cultural groups, living environments, and health needs. TGD communities continue to bear an HIV burden (3.8% prevalence) about 19 times higher than the general population, yet public HIV services do not align with community needs. Person-centered care delivered in a welcoming environment may improve service engagement but the blueprint of such a model remains unclear.

Methods: This study partners with three USAID-supported person-centered TGD health clinics in Maharashtra and Telangana, India, called Mitr clinics, offering HIV services and linkage to gender-affirming services. To explore priorities and factors influencing access-to-care among TGD individuals, Indian researchers fluent in local languages conducted in-depth interviews with TGD respondents in Maharashtra and Telangana, India. Clinic staff supported purposive sampling for diversity across clinic engagement, age, gender identity, and HIV status.

We conducted iterative data analysis with interviewers through discussions, memo-writing, and thematic analysis of transcripts.

Results: We conducted 28 interviews from September 2024-January 2025 (25 in Telangana, three in Maharashtra). Among respondents, ages ranged from 21-51 years; 21 identified as women or transgender women, six as men or transgender men, and one as gender diverse. Five were living with HIV and seven had never been to Mitr clinics. Participants sought care because they wanted cosmetic, hormone, and surgical services, emphasizing the need for improved information and affordability. Other priorities included mental health counseling, HIV awareness-building, and HIV comorbidity management when aging. Participants shared narratives of isolation and increasing violence and vocalized the need for accessible housing, self-defense/self-advocacy training, visibility for transgender men, ways to build community, and support to navigate family dynamics. Individuals returned to Mitr clinics because they felt open talking about their bodies with providers and it felt like a welcoming, proud space.

Conclusions: Findings emphasize the role that individualized sociostructural factors play in determining healthcare access and how they can be important entry points for HIV and other healthcare. Interviews are ongoing to expand findings. Learnings can inform TGD healthcare policy and resource allocation to optimize person-centered models, ensuring they align with TGD community priorities and overcome multilevel barriers to care access.

EP0723

Prevalence and predisposing factors of comprehensive knowledge about HIV among MSM in Rwanda

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Background: Limited comprehensive knowledge of HIV among men who have sex with men (MSM) contributes to an increased risk of HIV acquisition and limits access to testing, prevention, and treatment services. However, the factors that predispose MSM to have low HIV knowledge remain poorly understood. This study aims to identify the prevalence and factors associated with comprehensive HIV knowledge among MSM in Rwanda.

Methods: This cross-sectional study used data from a 2024 Respondent Driven Sampling (RDS) survey conducted among 3,757 MSM, aged 18 years and older, who had engaged in sex with men in the past year. Participants

were recruited using valid coupons and provided informed consent. Data were collected through structured interviews and health tests, including HIV status and knowledge of HIV prevention and treatment. The study was conducted from January to March 2024. Data were analyzed using Stata. Descriptive statistics and adjusted prevalence ratios (aOR) with 95% confidence intervals were used to identify factors associated with comprehensive HIV knowledge.

Results: Among the 3,757 MSM, the median age was 25 years (IQR: 22–31). The majority had completed secondary education (55.8%), were unemployed or had irregular jobs (53.5%), and 61.2% had received HIV/AIDS information in the past six months. The prevalence of comprehensive HIV knowledge was 55.2%. HIV knowledge was significantly higher among MSM with higher education (aOR: 1.9, 95% CI: 1.2–3.6), those exposed to HIV/AIDS messages (aOR: 1.4, 95% CI: 1.1–1.8), and those who paid for sex (aOR: 1.4, 95% CI: 1.1–1.9).

Conclusions: Addressing HIV-related issues among MSM requires a comprehensive approach that includes education, stigma reduction, and improved access to healthcare. The findings underscore the importance of targeting younger MSM, those with lower education levels, and those with limited access to HIV/AIDS messages to reduce HIV transmission and improve their quality of life.

Future interventions should focus on integrating HIV education with services that address stigma and ensure equitable access to healthcare for all MSM, especially in resource-limited settings.

EP0724

Peer support in action: LGBTIQ Community-Led psycho-social support, sexual reproductive health and HIV care services in Angola

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Background: Four decades into the HIV pandemic, children, adolescents and young adults living with HIV (CAYA-HIV) have challenges in retention, viral suppression, and mortality. Lesbian, Gay, Bi-sexual, Transgender, Queer, Intersex (LGBTQI+) youth living with HIV face double stigma and discrimination because of their HIV status and their sexual orientation, limiting access to care. Despite supportive policies in Angola, stigma in communities and healthcare persists restricting access to sexual and reproductive health services. The World Health Organization recommends peer-provider models as a key strategy to address these challenges and support the goal of ending paediatric AIDS by 2030.

Description: Leveraging extensive experience in Zimbabwe and regional partnerships, Zvandiri developed peer model to ensure adolescents with HIV survive and thrive. Adapted in Angola the Community Adolescents Treatment Supporters initiative, and in collaboration with Angola Ministry of Health trained peer providers from the LGBTQI+ community, in Benguela and Luanda in Angola, across five clinics. The Peer Providers play a crucial role in supporting their peers by providing counselling, sexual and reproductive health rights (SRHR) information, disclosure support, assistance in coping with stigma and retention in care. Peer to peer information is disseminated through clinics, support groups, home visits, and digital platforms.

Lessons learned: Peer Providers supports clients facing discrimination in accessing HIV services and in navigating clinic settings. They bridge the gap between clients and healthcare workers, improving service delivery and fostering positive attitudes. Their shared experiences and empathetic care help reduce the stigma of living with HIV and being part of a key population. They assist parents and caregivers in accepting the young people in their care. By handling counselling needs, they alleviate healthcare worker's workload, allowing clinical personnel to focus on medication provision. This support has started to demonstrate reduction in their viral load results after three months of support.

Conclusions/Next steps: Peer providers play a critical role in delivering psychosocial support, sexual reproductive health information, and HIV care to CAYAHIV. By leveraging peer support, the program demonstrates improves retention and viral suppression rates, underscoring the need to scale and sustain peer-provider models to address the unique challenges faced by young people in the LGBTQI+ community.

EP0725

Exploratory qualitative analysis of the acceptability of HIV prevention methods among pregnant and lactating women interviewed during the randomized blinded phase of PURPOSE 1

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Background: PURPOSE 1 (NCT04994509) was the first pre-exposure prophylaxis (PrEP) trial to support inclusion of pregnant and lactating people (PLP) and demonstrated safety and 100% efficacy of lenacapavir for PrEP among cisgender young women, including PLP. We are conducting a qualitative substudy exploring the acceptability of twice-yearly injections and daily oral PrEP among select PURPOSE 1 subgroups. This analysis focuses on PLP attitudes during the randomized blinded phase.

Methods: Contraception was provided for free but was not required. Participants who became pregnant were counseled about the benefit/risk and reconsented to continue on study drug. At 5 of 25 South African substudy sites, PLP were purposively enrolled to explore acceptability of study products.

We conducted 16 in-depth interviews with 13 participants prior to release of data on efficacy and safety of lenacapavir. Three participants were interviewed during both pregnancy and lactation, and one during lactation alone. Interviews used a semi-structured guide, were translated and transcribed in English, and were analyzed thematically.

Results: Participants were generally satisfied with both the injection and oral pills for HIV prevention. They appreciated the convenience and reliability of a long-acting injectable that obviated daily adherence. Some described initial injection-related pain and discomfort but they felt consistently protected.

Some expressed concerns about the unknown safety of the injections during pregnancy and lactation, including concern about administration of the subcutaneous injection in the abdomen, or that infants might be exposed to study drug via lactation.

These concerns led some to indicate a preference for oral PrEP, despite side effects and daily adherence challenges, noting its established safety, familiarity, and alignment with prenatal medications.

However, others awaiting their next injection expressed a willingness to continue, citing availability of an alternative injection site (thigh) as a motivating factor.

Conclusions: Among this subsample of 13 PLP, participants shared concerns about the use of investigational study drugs while pregnant or lactating; while also noting benefits for consistent HIV protection and appreciating the option for an alternative injection site in the thighs.

These findings underscore the value of education and counseling about the efficacy, safety, tolerability, and pharmacokinetics for successful PrEP implementation among PLP.

EP0726

Ethical considerations for research involving pregnant women living with HIV and their children

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Background: Pregnant and post-partum women living with HIV (PWLHIV) and their children have historically been excluded from certain research in the name of protection. This may, however, inadvertently exacerbate health disparities. While calls for their inclusion have increased, practical guidance on achieving this goal is lacking.

This project developed practical recommendations for enabling PWLHIV and their children to participate ethically in research.

Description: To inform this project, we performed 75 one-on-one qualitative interviews, primarily with PWLHIV and controls without HIV with history of prior research participation at Moi Teaching and Referral Hospital in Eldoret, Kenya, using a person-centered approach to gather insights on factors influencing research participation.

Additionally, two participatory workshops (n=40) were held to further interpret these factors with key stakeholders (e.g. community leaders, partners, ethic committee members.)

A multi-disciplinary team of U.S. and Kenyan research, ethics, and clinical professionals analyzed data to generate recommendations, and 12 additional PWLHIV reviewed their conclusions to ensure value and perspective alignment.

Lessons learned: PWLHIV were most concerned about methods by which participant confidentiality would be protected, specially related to their HIV status. Tailored strategies were required. Traditional prioritization of autonomy by international research ethics often conflicted with the communitarian values held in contexts with high HIV-prevalence, where decisions are influenced by close and community relationships.

Concerns were raised about therapeutic misconceptions. However, participants did report enhanced care, such as careful physical exam or access to providers for a child with disabilities, reflecting the challenges of conducting studies in settings with limited healthcare infrastructure and research literacy.

Study participants and community members emphasized their desire to be actively involved at multiple stages of the research process.

Additionally, dual ethical review – both local and from sponsoring institutions – was highlighted as crucial, alongside the need for increased support and infrastructure within host countries to optimize oversight and include community and cultural perspectives.

Conclusions/Next steps: We identified critical considerations in implementing processes protecting confidentiality, promoting agency, respecting their personhood, engaging communities, and providing appropriate oversight. The resulting guidance will be disseminated widely to inform future research practices, with significant implications for advancing ethical and inclusive research involving PWLHIV and their children.

EP0727

Prevalence of HIV and related behaviors among MSM in Albania. Integrated bio-behavioral surveillance

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Background: Although Albania remains a low HIV prevalence country, the prevalence among MSM is increasing. MSM are the most hidden population in Albania, and their activities are not visible owing the stigma and discrimination experienced by this population. In 2024, a study was conducted among MSM by ACPD (Albanian Center for Population and Development) supported by Global Fund, Albania aiming at estimating the prevalence of HIV and exploring its associated risk factors.

Methods: Using standard methods of respondent driven sampling (RDS), 554 MSM were recruited MSM in three larger cities in Albania. RDS-adjusted population estimates were calculated to estimate prevalence of HIV and risky behavior.

Results: The median age of 28 years reflects the predominance of young to middle-aged adults in the MSM community. Almost half of MSM (48%) reported having sex with non-regular, non-commercial partners in the last six months, indicating a common practice among this population.

The high number of casual partners and the varying roles during sexual encounters suggest a dynamic sexual network that could facilitate the spread of HIV and other STIs if not adequately managed. The study highlights a concerning perception among MSM regarding their risk of HIV acquisition of HIV.

Almost half (43%) of MSM believed they were at no risk of HIV acquisition of HIV. The study reveals that 13% avoid healthcare due to stigma, and 14% avoiding it because of fear that someone might discover their sexual orientation. These rates are higher than those reported in previous studies, indicating a negative trend in healthcare avoidance due to stigma and fear of exposure.

The prevalence of HIV is still low at 3.3%, but higher than in 2019 (2.0%). The Syphilis prevalence was 4.8%, more than twice the prevalence of 2019 (1.9%).

Conclusions: The combination of HIV related risky behaviors among MSM population makes it imperative this group to be targeted as part of any HIV prevention strategy. The relatively high rates stigma underscore the hostile environment that MSM navigate daily. These experiences can lead to increased mental health issues, reluctance to seek healthcare, and reduced willingness to engage in preventive behaviors such as regular HIV testing.

EP0728

Prevalence of chemsex and associated factors among gay, bisexual, and other men who have sex with men in Nepal: findings from an online national survey

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Background: Chemsex typically involves the use of psychoactive substances such as crystal methamphetamine, mephedrone, gamma-hydroxybutyrate, or gamma-butyrolactone (GHB/GBL) before or during sex to enhance sexual activity. The increase in the chemsex phenomenon among gay, bisexual, and other men who have sex with men (GBMSM) is alarming, as it is associated with risky sexual behaviors, including condomless sex and multiple sex partners. Despite increasing concerns, there is non-existent research on chemsex among GBMSM in Nepal. Therefore, this current study aimed to identify the prevalence and factors associated with engagement in chemsex among GBMSM in Nepal.

Methods: A cross-sectional online survey of 842 Nepali GBMSM was conducted between March and May 2024. Participants completed a self-administered assessment of their demographic characteristics, psychosocial factors and behaviors, recent sexual and health-related behaviors, and their chemsex engagement in the last 12 months. Multivariable logistic regression was used to identify factors associated with recent chemsex engagement (within the past 12 months).

Results: Among 842 participants (mean age 27.6 ± 7.1 years), 24.7% reported ever engaging in chemsex, and 19.1% did so in the past 12 months. GBMSM who were high school graduates were less likely to have engaged in chemsex in the past 12 months (aOR: 0.5; 95% CI: 0.3-0.8). However, GBMSM who reported having multiple sex partners (aOR: 9.6; 95% CI: 1.3-71.4), being involved in party/group sex in the past 12 months (aOR: 2.5; 95% CI: 1.5-3.9), and with depressive symptoms (aOR: 2.0; 95% CI: 1.3-3.0) were more likely to have engaged in chemsex in the past 12 months.

Conclusions: Chemsex engagement among GBMSM in Nepal is relatively higher compared to rates observed in other countries, heightening vulnerability to HIV and other sexually transmitted infections. An integrated approach is urgently needed, encompassing awareness raising, drug use support, sexual health services, and mental health care. This approach should prioritize harm reduction strategies specifically tailored for GBMSM engaged in chemsex practices.

EP0729

Men on the move: coping with HIV and mobility in Johannesburg, South Africa

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Background: Johannesburg is home to ~5.5 million people who have relocated from elsewhere, the majority of whom are men. Mobility is a risk factor for acquiring HIV, and people who move across provincial and country borders are more than twice as likely as others to forgo testing and health services. Positive coping skills are critical for effective healthcare decision-making, but little is known about how men's HIV status and mobility-related stressors affect their coping strategies.

Methods: From February-April 2024, we recruited 200 mobile men (living in Johannesburg for ≤5 years) at community sites (e.g., taxi ranks, workplaces, parks). We administered a socio-demographic survey, including HIV status and the Soweto Coping Scale, which has two domains of coping. We defined problem-focused/emotional (score range 5-45 points) and religious (score range 5-25 points) coping scores as the sums of their respective scale responses. We fitted multivariate linear regression models to assess associations between these coping scores with HIV status and mobility variables, adjusting for mobility-related (legal status, nights away from home, any nights with hunger) and demographic (age, education, employment) variables.

Results: Participants had a mean age of 33 years, 25% reported living with HIV, and 77% reported having legal residence status. The religious coping score was higher among men with HIV versus men with negative/unknown status (2.18 points higher, 95% CI=[0.28,4.08]; p=0.025). The religious (2.24 points higher, 95% CI=[0.25,4.23]; p=0.028) and problem-focused/emotional (2.74 points higher, 95% CI=[0.35, 5.19]; p=0.28) scores were higher among men with legal status versus those without.

Conclusions: South African mobile men are significantly more likely to use religious coping in response to stressors in their lives. Prior research has shown that strong religious beliefs in conjunction with psychosocial support promotes good clinical outcomes, including higher rates of antiretroviral therapy adherence. Men without legal status may struggle with coping in the face of challenges such as seeking jobs and healthcare while fearing deportation and may benefit from clinical care provided with social and/or legal services. Further research is needed to understand how religious beliefs impact clinical outcomes among South African mobile men living with HIV to inform treatment interventions for this population.

EP0730

Fisting and HIV correlates among gay, bisexual, and other men who have sex with men

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Background: Fisting is the sexual practice of inserting a hand into the anus/vagina. Despite its popularity within kink subcultures, it remains understudied in relation to sexual health; despite potential significant implications for HIV and other STI prevention and care.

This study explores the knowledge, experiences, and practices of anal fisting among gay, bisexual, and other men who have sex with men (GBMSM) and compares these characteristics to non-fisters to inform targeted public health education efforts and interventions.

Methods: From July 4-14, 2024, users of Recon, a kink socio-sexual networking site for GBMSM, were invited to complete the Kink Health, Wellbeing and Orientation survey. Alongside sociodemographic factors, the survey assessed the 1,012 respondents' experience with fisting and sexual health practices. Bivariate analyses were conducted between participants who engage in fisting and non-fisters to explore HIV and other STI prevalence, incidence, and prevention uptake.

Results: Past-year fisting engagement was 33.5% (n=339) of GBMSM in the past year. HIV prevalence was 22.1% (n=75) among fisters and 8.5% (n=57) among non-fisters; HIV incidence was 5.4% (n=15) among fisters compared to 2.7% (n=17) among non-fisters. Healthcare engagement also varied; 64.2% (n=167) of HIV-negative fisters used PrEP in the past 12 months, compared to 31.3% (n=189) of non-fisters. Additionally, past-year STI testing was significantly more common among people who fist (p<0.01). Fisters were more likely to use DoxyPEP (22.1% vs. 7.1%, p < 0.01) and expressed greater interest in future DoxyPEP utilization (70.2% vs. 61.2%, p < 0.01).

	GBMSM Non-Fisting n (col %)	GBMSM Fisting n (col %)	Pearson χ^2 value
Total	673 (100.0)	339 (100.0)	-
Health, overall			0.13
Excellent	101 (15.0)	53 (15.6)	
Very good	295 (43.8)	173 (51.0)	
Good	199 (29.6)	83 (24.5)	
Fair	68 (10.1)	28 (8.3)	
Poor	10 (1.5)	2 (0.6)	
HIV Status (current)			<0.01
Negative	616 (91.5)	264 (77.9)	
Positive	57 (8.5)	75 (22.1)	
HIV Diagnosis (12 mo.)			<0.01
No-Incidence	616 (97.3)	264 (94.6)	
Incidence	17 (2.7)	15 (5.4)	
HIV PrEP* (12 mo.)			<0.01
Not used	414 (68.7)	93 (35.8)	
Used	189 (31.3)	167 (64.2)	
STI Testing (12 mo.)			
No	219 (32.5)	47 (13.9)	<0.01
Yes	439 (65.2)	287 (84.9)	
No response/unsure	15 (2.2)	4 (1.2)	
STI Diagnosis^ (12 mo.)			<0.01
No	587 (87.2)	254 (74.9)	
Yes	78 (11.6)	84 (24.8)	
No response/Unsure	8 (1.2)	1 (0.3)	
DoxyPEP Use (12 mo.)			<0.01
Not used	625 (92.9)	264 (77.9)	
Used	48 (7.1)	75 (22.1)	
DoxyPEP Interest			<0.01
Not Interested	261 (38.8)	101 (29.8)	
Interested	412 (61.2)	238 (70.2)	

*HIV PrEP use row tabulated among people who reported current HIV-negative serostatus.

^STIs reported in our sample includes gonorrhea, chlamydia, HPV, syphilis, Hep A, Hep C, mpox, shigella, herpes, mycoplasma, giardiasis, genital warts, and meningitis

Conclusions: This study highlights significant differences in HIV prevalence and incidence, PrEP use, STI testing, and DoxyPEP engagement, suggesting fisters may be more connected to prevention and care services yet simultaneously be at higher risk for HIV acquisition.
Public health prevention and education efforts should recognize fisting as a high impact activity which can influence syndemics of HIV and other STIs.

EP0731

Bridging barriers: key populations revolutionizing HIV prevention and local development through human-centered design in Liberia

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Background: Community offering of HIV Pre- Exposure Prophylaxis (PrEP) has been offered in Liberia since June 15, 2023, using general educational messaging, but uptake and continuation was lagging below targets.
In August 2023, a human-centered-design (HCD) approach was used to co-design PrEP demand generation messaging with key populations (KP). From October 2023 to September 2024, the co-designed promotion strategies were rolled out, reaching 5,080 KPs, with 4,961 (98%) eligible for PrEP and 4,724 (95%) enrolled on PrEP, representing a significant increase when compared to the pre-intervention uptake and continuation trends.
Description: A workshop for KPs using a HCD approach was conducted in June and August of 2023. The creative workshop engaged a total of 12 Female Sex Workers; 6 Men who have Sex Men; 5 Transgender; 5 People Who Inject Drugs and 18 Non KP as co-leads and participants.
Insights were gathered through interviews and focus group meetings, followed by creative sessions to develop resonant messages, e.g. "Flex with PrEP," "I glow with PrEP," and identify powerful messengers such as Mammy Queens (Respected female leaders within the sex worker community). Subsequently, posters, stickers, and flyers were designed iteratively, shaped and refined by feedback from KPs.
Co-designed interventions using both emotional and functional messages were rolled out through Mammy Queens and Peer Educators, resulting in significant increases in both uptake and continuation, exceeding donor targets for HIV testing and PrEP from 253 (2023) to 2,186(2024).
Lessons learned: HCD offers an effective approach to engaging KPs in co-designing tailored messaging and promotional strategies that resonate and inspire change. HCD's participatory and creative exercises and iterative approach to materials development can be completed in a short timeframe. KPs are effective co-facilitators.
Fact-based medical messaging alone is less motivating than a combination of emotional and functional appeals. Collaboration with CSOs was essential for smooth implementation and scaling-up.

Conclusions/Next steps: The HCD approach has been transformative in improving uptake of PrEP among KPs in Liberia. By engaging them in co-creating communication solutions, the initiative not only surpassed donor targets for testing and PrEP enrollment but also demonstrated the power of community-driven interventions in overcoming barriers and achieving impactful outcomes.

EP0732

Impact of violence on HIV prevalence and cascade of care in men who have sex with men and transgender women: a global systematic review and meta-analysis

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Background: Violence towards men-who-have-sex-with-men (MSM) and transgender women (TGW) may detrimentally affect HIV risk and treatment outcomes and hinder progress towards the 2030 AIDS elimination targets. We synthesised global evidence on the impact of violence on HIV outcomes among MSM and TGW.
Methods: We searched MEDLINE, Embase, and PsycINFO databases for studies published between January 2010 and 2024, assessing associations between any violence and at least one HIV outcome (HIV prevalence, incidence, ART uptake/adherence, and viral suppression) among MSM and TGW.
We pooled associations (adjusted estimates when available) from the included studies and also used multilevel random-effect analysis to account for multiple estimates from studies with different exposure types.
Results: From 12,895 publications, we reviewed 228 full-texts selecting 46 studies as eligible and retrieving 42 estimates from MSM-only studies, 20 from TGW-only studies, and 9 from MSM and TGW studies. Most estimates covered the American (24%) and African (27%) regions. Experiences of any form of violence were associated with greater odds of incident (HR: 2.14; 95% CI: 1.18-3.91) and prevalent (OR: 1.61; 95%CI: 1.23-2.10) HIV infection among MSM and TGW. Subgroup analyses found strong associations between recent (OR: 2.23; 95%CI: 1.03-5.21) or lifetime experiences of sexual violence (OR: 1.48; 95%CI: 1.17-1.89) and prevalence HIV infection but there was weaker evidence for the effects of recent (OR: 2.86; 95%CI: 0.44-18.47) or lifetime experiences of intimate partner violence (OR: 1.60 95% CI:0.93-2.75). Experience of violence was associated with lower viral suppression levels (OR: 0.54; 95%CI: 0.38-0.75) but was not associated with ART uptake/adherence among MSM and TGW.
Conclusions: Experiences of violence among MSM and TGW are associated with an increased risk of prevalent and incident HIV, and lower levels of viral suppression. Integration of violence reduction interventions in policies and programs may help in achieving 2030 HIV/AIDS targets.

EP0733

Assessing a syndemic of discrimination, stigma, material insecurity, depression, substance use, and intimate partner violence among sexual and gender minorities in Nigeria

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Background: Sexual and gender minority people (SGM) in Nigeria experience disproportionate HIV burden, with an HIV prevalence four to ten times higher than the national average. Gaining a better understanding of factors that create HIV vulnerability in this population is important for designing effective interventions, particularly in a context largely hostile to SGM.

Methods: We assessed a conceptual model describing a syndemic of experienced discrimination, stigma, material insecurity, depression, substance use, and intimate partner violence among SGM in Nigeria. As part of a larger, longitudinal study examining noncommunicable disease outcomes among this population, we conducted a mixed method analysis using both quantitative intake data (n=515) as well as data from three focus groups (n=36) collected in 2023-24.

We tested for intercorrelations among syndemic factors, and associations between a cumulative syndemic index and HIV status using modified Poisson regression. We also conducted a convergent qualitative assessment of the conceptual model in three focus group discussions.

Finally, we examined the co-prevalence of syndemic factors highlighted in our qualitative findings.

Results: There were consistent intercorrelations among syndemic components, supporting the presence of a syndemic. After adjustment for sociodemographic factors, every quartile-unit increase in the syndemic index was associated with an 18% increase in prevalence of HIV (aPR=1.18, 95% CI 1.07, 1.29).

Additionally, our qualitative findings highlighted relationships between discrimination, material insecurity, and depression as especially relevant among this population. Examining syndemic factors identified as particularly salient in our qualitative analyses, nearly every single co-prevalence in our quantitative data was significantly greater than expected.

Conclusions: We found strong evidence of a syndemic of experienced discrimination, stigma, material insecurity, depression, substance use, and intimate partner violence among SGM in Nigeria in both our quantitative and qualitative data. Participants described discrimination, material insecurity, and depression as especially salient to the HIV-related outcomes of SGM in Nigeria. Overall, our findings highlight the presence of a syndemic that must be addressed not simply at the individual level, but through larger scale social and structural change efforts.

EP0734

Individual-level factors associated with self-reported PrEP use among MSM sex workers (MSMSW) advertising services in California

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Background: California, long-considered a safe-haven for sexual and gender minorities, offers male sex workers both economic opportunity and abundant sexual health services, including low-cost HIV testing and PrEP. However, misperceptions that PrEP is exclusively for gay men hinder uptake among populactions at risk for HIV infection, including MSMSW who are non-gay identified (NGI).

This study explores individual-level factors associated with advertising PrEP use among HIV-negative, cisgender, male-identifying sex workers who have sex with men (MSMSW) advertising commercial sex work services in California for the purposes of informing uptake strategies.

Methods: Following IRB approval, we web-scraped profile data from July-October 2024 at biweekly intervals from MSMSW advertising services in California on a global, Internet-based MSMSW-oriented advertising platform.

Multivariate logistic regression was applied to assess the association between sociodemographic characteristics (age, race/ethnicity, sexual orientation), physical traits (body hair, body type, circumcision status), sexual preferences (position, condom use), and advertised PrEP use.

Results: Of 2436 unique MSMSW advertisements, 61.5% (n=1498) described PrEP use, 21.7% (n=529) reported being HIV-negative, and 16.8% (n=409) did not disclose their serostatus nor PrEP use.

Among HIV-negative MSMSW with complete profile data (N=1693), MSMSW identifying as bisexual (aOR=0.58, 95% CI: 0.42-0.81), straight (aOR=0.34, 95% CI: 0.19-0.62), or "ask me" (aOR=0.52, 95% CI: 0.32-0.82) were less likely to advertise PrEP compared to gay-identifying MSMSW. MSMSW advertising anal sex were more likely to report PrEP use (aOR=2.13, 95% CI: 1.36-3.33) than those who did not.

MSMSW advertising condomless anal intercourse, such as those indicating "ask me" (aOR=4.14, 95% CI: 2.91-5.89) or "anything goes" (aOR=4.61, 95% CI: 3.04-7.00), to potential clients were more likely to advertise PrEP use than their peers who required condom use during client encounters.

Notably, Black (aOR=0.52, 95% CI: 0.33-0.83) and Native American (aOR=0.05, 95% CI: 0.01-0.28) MSMSW were less likely to advertise PrEP use than their White peers.

Conclusions: Our findings demonstrate how PrEP use may not align with socially-defined masculine identities constructed to appeal to consumers of MSMSW services across California. Some MSMSW populations may require

more tailored approaches to promote PrEP uptake that challenge societal definitions of masculinity, particularly among NGI Black and Native American MSMSW.

EP0735

Colorado empire: exploring drug use, stigma, and ART adherence among GBTQ sex workers living with HIV in Nigeria

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Background: Drug use and abuse as a coping mechanism is a rising concern for Gay, Bisexual, Transgender, and Queer (GBTQ) sex workers living with HIV in Lagos due to compounded stigma, discrimination, and the criminalization of the intersectionality of their identities. The widespread drug use among this population has potential impacts on ART adherence, healthcare access, and safe sex practices.
This study, which is the first of its kind in Nigeria, investigated the patterns of drug use, its influence on the health behaviors of GBTQ sex workers living with HIV, and the systemic barriers that exacerbate these challenges.
Methods: A cross-sectional survey was designed to explore drug use, ART adherence, and stigma among GBTQ sex workers living with HIV in Lagos State, Nigeria. A total of 264 GBTQ sex workers living with HIV were recruited through peer networks and snowball sampling.
Data collection focused on drug use frequency, types of substances consumed, ART adherence behaviors, and barriers to healthcare access. Respondents also provided qualitative feedback on their experiences with stigma, and discrimination, and recommendations for improved care.
Results: 78.1% of respondents reported drug use within the last six months (prescription drugs eg tramadol, codeine (51.6%), cannabis (21.9%), and methamphetamine (15.5%)). Among users, 28.1% reported daily use, correlating with respondents with ART adherence challenges (27.5%). 17.2% identified drug use as a barrier to adherence, citing forgetfulness, disrupted timing, and physical side effects as primary reasons. 21.9% admitted drug use impaired their ability to use protection consistently, with only 37.5% always practicing safe sex.
While 57.2% of respondents felt supported by healthcare providers, 42.8% reported service-provision gaps, including stigma, lack of trauma-informed care, and insufficient harm reduction services.
Conclusions: This study highlights significant trends in drug use and its interplay with ART adherence, healthcare access, and safe sex practices among GBTQ sex workers living with HIV.
Findings from the study emphasize the need for integrated harm reduction programs, ART delivery services, and mental health support tailored to diverse GBTQ identities. Future programs should prioritize intersectionality, ensuring that services address the unique vulnerabilities of this population while fostering a stigma-free, supportive environment for long-term health engagement.

EP0736

Addressing HIV care disparities among LBQ women in Southwest Nigeria

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Background: Lesbian, bisexual, and queer (LBQ) women in Southwest Nigeria face significant barriers to accessing HIV-related healthcare services due to pervasive stigma, discriminatory practices, and restrictive legal frameworks. These systemic challenges discourage disclosure of sexual orientation and limit engagement with HIV prevention, treatment, and care services. Despite global efforts to address HIV disparities, the unique vulnerabilities of LBQ women living with or at risk for HIV remain critically underexplored in Nigeria.
This study, conducted in Lagos and Ogun States, seeks to uncover these barriers and propose actionable solutions.
Methods: A mixed-methods approach was utilized in 2024, including focus group discussions, key informant interviews, and structured online surveys with 209 participants. These included LBQ women, healthcare providers, and other stakeholders. Data collection tools were designed to explore access to HIV care, barriers faced, and service utilization. Triangulation was applied to validate findings, ensuring depth and reliability of emerging themes.
Results: The study highlighted significant barriers faced by LBQ women in accessing HIV care. Among respondents, 68% reported experiencing discrimination from public healthcare providers, discouraging disclosure of sexual orientation and leading to avoidance of essential services such as HIV testing, PrEP access, and ART adherence support.
While 42% relied on private clinics or One-Stop Shops (OSS) to avoid stigma, 31% reported the high cost of transportation to access these services as a major barrier. Alarmingly, 29% resorted to self-medication for managing HIV symptoms, increasing the risk of adverse health outcomes.
Additionally, 74% of participants reported the absence of safe, non-judgmental mechanisms for addressing mistreatment or receiving guidance on navigating HIV care.
These findings reveal systemic neglect and the urgent need for inclusive, targeted interventions to improve health outcomes for LBQ women.
Conclusions: Targeted systemic reforms are essential to close HIV care gaps for LBQ women in Nigeria. Expanding KP-friendly services, such as OSS, anti-stigma initiatives, and cultural competence training for healthcare providers, can significantly enhance HIV prevention, treatment, and care for this marginalized group.
This study underscores the urgency of inclusive policies that respect the rights and health needs of LBQ women, advancing efforts to eliminate HIV disparities by 2030.

EP0737

Breaking the barriers: enhancing treatment cascade among key populations receiving HIV care in complex sociocultural settings

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Background: Key populations (KPs) deserve special attention in attaining the UNAIDS 95:95:95 targets. Pervasive stigma and discrimination against KPs perpetuated by political, sociocultural and religious beliefs are the major barriers that complicate service provision in northern Nigeria. To overcome these barriers, Society for Family Health Nigeria (SFH), a nongovernmental organization implementing multifaceted public health interventions with focus on KP programs, deployed an innovative package of interventions that enabled access and provision of quality care to the population. This study reports on the outcomes of the interventions.
Methods: In the third quarter of 2022, in five Northern Nigeria states, SFH conducted enhanced awareness creation among policy, religious and community leaders and engaged social media influencers to minimize misconceptions thereby creating an enabling environment to reach KPs with quality HIV services. There was deployment of differentiated service delivery (DSD) models with the use of KP community members as case managers to optimize retention, treatment adherence and timely viral load (VL) testing. Similarly, program data was used to consistently review progress, performance and address gaps. A retrospective cohort analysis to evaluate treatment cascade among KP who initiated treatment between January – February 2023 was carried out.
Results: Between January and February 2023, 1,025 KPs were screened positive for HIV (indicating 3-fold increase in case identification when compared to prior performances) of whom people who inject drugs (PWIDS), female sex workers (FSW), men who have sex with men (MSM), people in prison and enclosed settings (PIPES) constituted 46.6%, 34.4%, 18.3% and 0.6% respectively.
All the 1,025 were initiated on treatment and 1,009 (98%) retained on treatment at 12 months (FSW = 348 [99%]; MSM= 187 [99%]; PWID= 470 [98%]) and PIPES=4 [67%]). Of the 1,025 KPs, 959 (93.6%) had a viral load test done of whom 957 (FSW = 328 [100%]; MSM= 179 [99%]; PWID= 446 [100%]) were virally suppressed.
Conclusions: The package of interventions deployed by SFH to reach KPs in the five northern states in Nigeria yielded unprecedented results and have proven to be highly effective. Therefore, provision of quality KPs program in complex sociocultural settings is possible using community participatory approaches as described in this study.

EP0738

Enhancing communication strategies to promote HIV self-testing through social media: an exploratory study of the 'A Hora é Agora' project in five Brazilian Municipalities, 2024

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Background: Despite Brazil's universal access to free antiretroviral therapy since 1996, socioeconomic inequalities and cultural barriers hinder early diagnosis and treatment. Research indicates that individuals with lower educational levels are significantly more likely to start treatment late, with delays increasing by up to 89% and worsening health conditions rising by 2.5 times (Rodrigues et al., 2021). Effective educational campaigns targeting key populations are essential to overcoming stigma and fear of judgment.
Description: The project A Hora é Agora, implemented by Fiocruz and funded by PEPFAR, supports Campo Grande/MS, Curitiba/PR, Florianopolis/SC, Fortaleza/CE, and Porto Alegre/RS. It focuses on tailored communication efforts for key populations, raising awareness about their rights, and providing information on HIV testing and treatment. The initiative collaborates with local civil society organizations (CSOs) and municipal health departments to promote combined prevention and address opportunistic diseases.
Lessons learned: Partnering with CSOs enhances our connection with KPs due to their credibility in municipalities. We held a photoshoot with community members and KP representatives for print and online materials. We utilized social media to promote received actions (PR Unboxing), featuring local influencers who also represent the KP and vulnerable groups to publicize the home delivery of HIV self-tests (HIVST), reaching 161,861 people and having 1,642 shares (Figure 1).

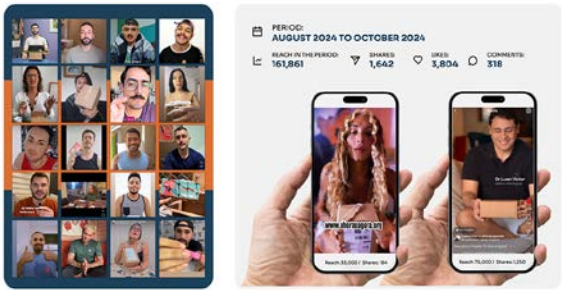


Figure 1. Campaign self-tests PR Unboxing.

Additionally, we established a partnership with Grindr, resulting in an over 60% increase in HIVST requests compared to the previous month in two municipalities par-

ticipating in the campaign, along with direct outreach efforts in social venues for KPs to promote combined HIV prevention services.

Conclusions/Next steps: Effective communication is vital in the response to HIV, as it promotes equitable healthcare access, reduces new acquisitions, and enhances the quality of life for vulnerable populations.

Engaging key populations and marginalized individuals remains a challenge. Despite a decade of progress, many who need public services are still unaware of them.

EP0739

Acceptance of female condoms among Brothel-Based Female Sex Workers (BBFSW) and their clients in Brothels in Lagos

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Background: Unprotected heterosexual intercourse remains the predominant mode of HIV transmission in Nigeria, accounting for approximately 80% of new infections. While the national HIV prevalence among the general population aged 15–49 is estimated at 1.3%, key populations, particularly female sex workers (FSWs), bear a disproportionately higher burden.

Notably, HIV prevalence among brothel-based female sex workers (BBFSWs) in Nigeria is reported at 19.4%. In Lagos, earlier studies indicated a prevalence of 12% among BBFSWs, though more recent data is needed to assess current trends.

This study investigates the acceptance and utilization of female condoms as a strategy for negotiating safer sex practices among BBFSWs and their clients in Lagos.

Methods: A cohort of 130 BBFSWs received comprehensive training on female condom usage, negotiation techniques, and data reporting methods.

Over four weeks, these sex workers documented their interactions with clients using structured survey questionnaires. Key variables assessed included types of sexual partners, willingness to use condoms, negotiation efficacy, and baseline knowledge of HIV transmission and prevention.

Results: The participating BBFSWs reported 757 client interactions during the study period. The mean age of the sex workers was 22 years, while that of their clients was 29 years. Notably, 80% of the BBFSWs had regular partners, referred to as "special boyfriends," with whom they intended to pursue long-term relationships.

Following sensitization efforts, 72% of clients accepted the use of female condoms. Conversely, 19% preferred male condoms, citing unfamiliarity and misconceptions about female condoms.

Additionally, 9% of clients offered increased payment for unprotected sex; however, the BBFSWs did not disclose whether these offers were accepted. Among the special boyfriends, 53% accepted female condom use, while 34% insisted on unprotected sex, expressing willingness to assume responsibility in case of pregnancy. Overall, 96% of all clients demonstrated basic HIV knowledge of HIV.

Conclusions: Enhancing awareness and education about female condoms is crucial to correct prevalent misconceptions and promote their acceptance. Also, access to female condoms can empower women, including sex workers, to effectively negotiate safer sex practices, ensuring the reduced risk of HIV transmission.

EP0740

Assessing the relevance of ethical positive parenting on the quality of HIV care & treatment services for adolescents living with HIV in Malawi: report on the 2024 Peer Supporters Training

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Background: Adolescents living with HIV (ALHIV) in Malawi face significant challenges, including mental health issues, stigma and discrimination and non-adherence to Antiretroviral Therapy (ART). Despite being vital to ALHIV Support, caregivers often lack ethical parenting skills necessary to address these challenges. Discussions on sexuality and HIV-related care are further impeded by cultural norms, which lead to gaps in psychosocial care, adherence support, and disclosure. Ethical and positive parenting advocacy within communities has the potential to bridge these gaps and strengthen outcomes across the UNAIDS 95:95:95 cascade.

Description: In 2024, a training program was conducted for 50 participants, including 16 healthcare professionals, 26 peer supporters, and 8 young mentor mothers. The training program addressed critical areas such as disclosure, adherence, and community attitudes as it examined the role of caregivers in supporting ALHIV. Pre and post training assessments evaluated participants' knowledge, attitudes, and experiences with ethical parenting. Focus Group Discussions were used to collectr qualitative data (FGDs).

Lessons learned: Training highlighted crucial areas that needed intervention about the difficulties faced by ALHIV and their caregivers. Key Findings Include

69% of ALHIV with treatment interruptions lacked stable caregiver support, 50% of ALHIV reported caregivers' inability to practice ethical positive parenting, and 67% experienced stigma and discrimination, leading to poor mental health and ART adherence.

Post-test findings showed increased awareness of gaps in caregiver support:

95% of participants noted caregivers lacked truth-telling practices; 87% reported verbal insults as a disciplinary method; and 70% identified poor caregiver involvement in ART uptake.

FGDs further identified cultural norms, stigma, and illiteracy as significant impediments to effective caregiver support.

Conclusions/Next steps: Ethical and positive parenting is essential for improving HIV care outcomes for ALHIV. The findings underscore the importance of community advocacy to address cultural and systemic barriers. Future initiatives should focus on empowering caregivers and communities to adopt ethical parenting practices, thereby contributing to epidemic control and sustainable HIV care outcomes.

EP0741

Assessment of accessibility and inclusivity features for people with hearing disability in YouTube videos addressing HIV prevention

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Background: YouTube is widely used to share health information on HIV prevention and services to millions of users. About 20% of the world's population live with hearing disability and thus requires disability-friendly services to access health information. Therefore, this study assessed the accessibility and inclusivity features present in YouTube videos related to HIV prevention, specifically focusing on their suitability for individuals with hearing disabilities.

Methods: We systematically searched YouTube using the keyword 'HIV prevention'. The search results were filtered to include videos that were 4 minutes or less in duration, posted within the past five years, and available in the English language. Subsequently, the identified videos were ranked based on the number of views, and the top fifty videos were selected for inclusion in the analysis. These videos were accessed using a checklist created from guidelines from the British Broadcasting Corporation, Imperial College London and other sources as well as academic literature. The checklist was made up of 17 items and accessed the videos based on closed captions and styling, language and clarity, speaker identification plus sound descriptions and quality.

Results: Almost all the videos (92%) had consistent volume levels throughout the videos and 86% were clear and free from background noise. Most (74%) had closed captions provided for all spoken content and 72% of the video's captions accurately represented the spoken words and relevant sounds. Furthermore, the majority of the videos (70%) had captions that were synchronized properly with the audio and 82% had text large enough and with sufficient contrast for easy readability. However, speakers were identified in only 12% of the videos and one-fifth (20%) had consistent methods for identifying speakers throughout the video. Additionally, only about a quarter (24%) described relevant sounds (such as laughter) in the captions.

Conclusions: The study findings revealed gaps in the inclusivity of the most-viewed videos on HIV prevention for people with hearing disability. Addressing these shortcomings will foster a more inclusive digital environment and ensure equitable access to HIV prevention information for individuals with hearing disabilities.

EP0742

Intersecting Stigma: the triple burden of HIV and cancer in LGBTQI+ identifying adolescents, a Botswana Baylor experience

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Background: Botswana-Baylor Children's Clinical Centre of Excellence (Botswana-Baylor Trust) is a national general care and treatment facility providing paediatric infectious disease and oncology services. Adolescents with a cancer diagnosis, HIV, and LGBTQI identities face a unique and compounded stigma that deeply impacts their care, making them feel marginalized across multiple dimensions. The intersection of these identities often leads to a lack of understanding or empathy from healthcare providers.

There is a need to balance cancer treatments with HIV management, while also navigating the complexities of LGBTQI-specific health concerns in environments that may not be affirming and exacerbate mental health challenges.

Description: Counseling sessions explored the experiences of five HIV-positive adolescents, aged between 16 and 23, who were diagnosed with cancer and identified as LGBTQI, they illustrated the unique challenges they faced due to triple stigma. These patients, each at one time experienced a high viral load, indicating poor adherence possibly due to anxieties and low self-esteem associated with HIV and their sexual identity. These adolescents not only dealt with physical health challenges but also faced significant mental health struggles, including depression, anxiety, and trauma, amplified by societal rejection and fear of discrimination from both healthcare providers and peers.

The lack of specialized support tools further complicated their mental health to help them navigate their identities, as many reported feeling either invisible or misunderstood by both their medical teams and social circles.

Lessons learned:

- Complex Treatment Regimens
- Mental Health Struggles
- Lack of Identity-Support Tools
- The Need for Holistic Healthcare Models

Conclusions/Next steps: There are medical, psychological, and social needs of adolescents facing triple stigma. It emphasizes the importance of developing LGBTQI-affirming healthcare environments that provide tailored support for managing chronic conditions like HIV and cancer.
Next Steps:
1. Training healthcare providers in cultural competency and intersectionality.
2. Development and adjustment of assessment tools in self-identification.
3. Interventions that support systemic changes to meet the multifaceted challenges they face.

EP0743

Mental health disparities among transgender women living with HIV: a scoping review of prevalence and challenges

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Background: Transgender women living with HIV experience significant mental health disparities due to intersecting vulnerabilities, including stigma, discrimination, and systemic inequities. This scoping review aimed to synthesize the global prevalence of mental health outcomes among transgender women living with HIV.
Methods: A comprehensive search was conducted across six databases (Embase, Medline, Web of Science, PsycINFO, CINAHL, Cochrane CENTRAL) on September 7, 2023, using terms related to transgender women, HIV, and mental health outcomes. Eligible studies reported quantitative data on transgender women and transfeminine people (e.g., hijra, travesti) living with HIV.
Exclusion criteria included studies not in English, qualitative studies, non-peer-reviewed articles, protocols, studies with mixed populations where outcomes of transgender women could not be extracted separately (e.g., cisgender women, cisgender men who have sex with men, transgender men, nonbinary people), and studies not reporting outcomes by HIV status.
Results: A total of 5,489 records were identified, deduplicated, and screened by two independent reviewers for eligibility. Following the screening process, 51 studies met the inclusion criteria, encompassing 6,110 transgender women living with HIV across 13 countries.
The ranges of mental health prevalences were:
1. depression: 16.04%-62.60%;
2. suicidal ideation: 15.60%-48.96%;
3. Ssuicide attempts: 7.80%-38.30%;
4. anxiety: 32.26%-51.22%;
5. post-traumatic stress disorder: 39.58%-40.00%;
6. tobacco use: 32.67%-68.34%;
7. hazardous alcohol use or at-risk alcohol use: 6.35%-77.00%;
8. binge drinking: 18.22%-43.00%;
9. substance use (any): 13.11%-73.17%;
10. marijuana: 18.87%-63.53%;
11. cocaine: 6.19%-82.75%;
12. crack cocaine: 5.66%-85.71%;
13. amphetamines and other stimulants: 2.87%-58.49%;
14. opioids: 2.60%-28.57%;
15. injectable drug use: 0%-47.82%;
16. other substances (e.g., poppers, LSD, ecstasy, sedatives, ketamine, PCP, barbiturates): 0.94%-44.60%;
17. polysubstance use: 22.53%-25.97%;
18. chemsex: 8.27%-55.84%; and 19) stigma/discrimination: 21%-93.54%.
Conclusions: This review highlights the disproportionate burden of mental health challenges faced by transgender women living with HIV, emphasizing the critical need for tailored interventions. The findings underscore the importance of integrating culturally tailored, trauma-informed, and stigma-reducing strategies into HIV care.
Addressing these disparities requires implementing policies to reduce structural inequities and scaling up focused interventions to improve mental health and HIV outcomes for transgender women.

EP0744

Quality of HIV services offered to GBTQ persons in differentiated One-Stop-Shop (OSS) clinics in Lagos State, Nigeria

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Background: The study assesses the quality of HIV services for GBTQ individuals in Lagos OSS clinics, identifying gaps, biases, and service deficiencies. Objectives include evaluating service accessibility, effectiveness, and satisfaction while providing recommendations for improvement. Hypotheses test service quality, disparities, and biases affecting specific demographic groups.
Methods: This mixed-method study in Lagos State focused on GBTQ individuals attending OSS clinics. Data was collected via Google forms and focus group discussions, using snowball sampling. Analysis involved descriptive statistics and SPSS. The study explored service utilization, quality, gaps, and biases, providing recommendations for service improvement.
Results: The study involved 215 respondents accessing HIV services at One-Stop-Shop (OSS) clinics in Lagos State, Nigeria. Most respondents (46.5%) were aged 21–25, and 51.6% identified as cis-male. Regarding sexual orientation, 52.1% identified as gay and 41.4% as bisexual. A majority (55.8%) had tertiary education, while 37.2% were employed. Income levels showed 44.2% earned below ₦50,000.

HIV services were utilized by 85.2% of respondents, with HIV testing (64.7%), information (60%), and condom/lubricant distribution (59.1%) being the most accessed. Quality assessments found 54% agreed services were accessible, 45.1% found scheduling efficient, and 28.8% rated care at 4/5.

Identified challenges included delays in services (19.1%), lack of GBTQ-specific knowledge (40%), and staff shortages (34.9%). Respondents recommended hiring more staff, improving service friendliness, and expanding clinic access to address biases and enhance service delivery.

Conclusions: This study highlights key insights into the accessibility, utilization, and quality of HIV services for GBTQ individuals in Lagos State. While OSS clinics play a vital role, challenges persist, including accessibility issues, service inefficiencies, and stigma. Improved staffing, extended service hours, and cultural competency training are recommended to enhance care delivery.

EP0745

Key findings and lessons learned from a pre-exposure prophylaxis (PrEP) demonstration project among people who use drugs (PWUDs) in Johannesburg

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Background: Rolling out pre-exposure prophylaxis (PrEP) as part of HIV prevention in South Africa's harm reduction programs is a new approach, with limited research available. Uptake and sustained use of PrEP among people who use drugs (PWUDs) face barriers such as skepticism, misinformation, and a lack of tailored information. However, PrEP remains a critical prevention option for this high-risk group.

Description: The Anova Health Institute implemented a tailored PrEP demonstration project for PWUDs through its existing harm reduction program, JabSmart. The project aimed to improve PrEP literacy, uptake, and adherence. Peer educators provided basic PrEP information at PWUD sites and referred eligible clients to the psychosocial support (PSS) team for comprehensive counseling, readiness assessments, and identifying social barriers to retention. The PSS team worked with clients to create personalized support plans and evaluate family reunification opportunities. After PSS sessions, eligible clients were referred to professional nurses for clinical counseling and PrEP initiation.

Lessons learned: From September to October 2024, 53 clients (37 males and 10 females) were initiated PrEP. A PrEP retention review in January 2025 showed that 52 out of 53 clients remained on PrEP. One client discontinued due to pill fatigue, and another one was treated for an STI. The PSS team addressed social and mental health challenges among 53 PWUDs. The pilot project revealed a knowledge gap about PrEP among PWUDs and showed that traditional methods like posters and pamphlets in healthcare facilities do not effectively reach this group. Instead, using harm reduction program networks for PrEP education proved more effective in reaching PWUD communities in their hotspots. This suggests that PrEP education should be integrated into trusted, accessible community channels to improve engagement and retention. The data above indicates that PWUD clients can be retained on PrEP when appropriate support is provided.

Conclusions/Next steps: Targeted PrEP education through existing PWUD interventions is essential. Integrating PrEP into harm reduction programs is a highly effective strategy to reach diverse PWUD communities. Additionally, PSS teams must be integrated with clinical teams to assist in addressing mental health and PrEP engagement and adherence.

EP0746

Understanding benefit-burden acceptability thresholds for HIV prevention vaccines among key and vulnerable populations: insights from a choice experiment in Uganda, South Africa and India

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Background: As novel HIV vaccine strategies are being pioneered and tested globally, it is essential to understand the unique value these next generation of vaccines hold for end-users, especially within the context of a rapidly expanding HIV prevention toolbox.

This study explored the key drivers of product choice that shape demand and value perception of HIV vaccine among currently reached and emerging risk networks, proliferating on digital platforms.

Methods: Employing threshold technique of preference elicitation to identify critical benefit-burden tradeoffs (Hauber et al 2021, Parikh et al 2023), an end-user choice experiment was conducted during September-December 2024, among 970 individuals including sex workers, men who have sex with men, transgender women, fisherfolks, adolescent boys and girls and long-haul truck drivers from India, Uganda and South Africa. Six scenarios faced off varying levels (high, moderate, low) of benefits including degree and duration of protection against burdens including multiple vaccination shots and side effects.

Participants were subjected to a scenario-based choice path starting from minimum levels of benefits and burdens to quantify maximum level of risk accepted for desired benefit.

Results: The choice experiment data across all populations and regions revealed an overarching tolerability of higher burdens to achieve desired benefit, however, there are consequential attributes that shape the product choice. Some key findings include:

- 89% respondents were willing to opt for a vaccine with multiple vaccination shots (6-8 injections over 2.5 years) as their **maximum acceptable risk/burdens** to achieve various benefits. 60% accepted this burden for **minimal acceptable benefits** of moderate degree (40-60%) and longer duration of protection (2-7 years) than available options.
- 21% were **consistently willing** to tolerate severe and rare side effects for various levels of both degree and duration of protection, while other 19% were **consistently averse** to any side effects for even highest degree (>80%) or longest duration (>8 years) of protection.
- Duration of protection and side effects emerge to be important decision factors driving nuanced preference trade-offs.

Conclusions: These data provide critical insights into potential HIV vaccine attributes that significantly influence acceptability, aiding in the strategic positioning of HIV vaccines and informing product design in its early development phase.

EP0747

HIV among key populations: addressing the cultural deficiencies of Afghan female refugees in Pakistan

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Background: Afghan female refugees in Pakistan, particularly those residing in camps, face unique challenges that heighten their vulnerability to HIV and limit access to prevention, care, and treatment services. Isolated from the broader society, these women encounter severe social exclusion and linguistic barriers that prevent them from engaging with the local population and accessing vital healthcare services. Many Afghan women in refugee camps resort to sex work for survival, where they face difficulties in negotiating safer sex practices, such as condom use, and fair wages with network operators due to their inability to communicate effectively. These compounded issues increase their risk of HIV and other sexually transmitted diseases. Tailored interventions are necessary to address the socio-economic, linguistic, and cultural barriers.
Methods: This qualitative study conducted 10 in-depth interviews and a focus group discussion with Afghan Female Refugees, focusing on those involved in sex work. Participants were selected based on their migrant status, sex work involvement, and HIV vulnerability. The study explored barriers to accessing HIV prevention and care services, particularly in the context of language, social isolation, and limited healthcare access due to language barrier and cultural diversity. Thematic analysis identified key challenges and care gaps.
Results: The study revealed that Afghan women face significant barriers to HIV care. Language was the primary barrier preventing effective communication with healthcare providers and clients, making it difficult to negotiate condom use and fair wages. Social isolation, fear of discrimination, and lack of knowledge about HIV prevention and sexual health further exacerbate their risks. Overcrowded and unsanitary camp conditions increase susceptibility to other health problems, while a lack of education leaves many women vulnerable to both HIV and violence.
Conclusions: Addressing the needs of Afghan female refugees requires a multifaceted approach, including culturally appropriate healthcare services with language support, mobile health clinics, and peer networks. Legal protections against exploitation and gender-based violence, along with public health campaigns, are essential. International support for refugee-inclusive HIV programs is critical to improving outcomes for this vulnerable group.

EP0748

Stigma, discrimination and other factors are associated with the decision to migrate among Jamaican MSM living with and at-risk for HIV

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Background: Stigma and discrimination significantly impact the lives of men who have sex with men (MSM) living with or affected by HIV in Jamaica, influencing their access to healthcare, employment, and housing. This environment contributes to high levels of social exclusion and drives the desire to migrate in search of safer, more accepting conditions. Despite public health interventions, MSM in Jamaica face pervasive discrimination, which is compounded by legislative barriers such as the "buggery" law.
This study aims to examine the association between stigma and discrimination and the migration decisions of MSM, highlighting socio-economic, cultural, and political factors.
Methods: A mixed-methods, cross-sectional observational study was conducted between August and October 2023. Data were collected via surveys from 317 MSM clients accessing HIV prevention and treatment services in four high-burden parishes, desk reviews of 85 medical dockets from MSM who migrated, and 15 key informant interviews with MSM who had already left Jamaica. Quantitative data were analyzed using descriptive statistics and chi-square tests, while qualitative data from interviews provided deeper insights into lived experiences.
Results: The findings indicate that 81.4% of respondents experienced discrimination, with verbal abuse (75.7%) and physical violence (22.7%) being the most common forms. Approximately 85.5% of participants expressed a desire to migrate, citing reasons such as personal safety (48.3%), freedom to express their identity (65%), and employment opportunities (64%). Desk reviews showed that 89.3% of MSM remained adherent to HIV treatment until migration, with 88.9% achieving viral suppression. Interview respondents highlighted experiences of discrimination in workplaces, housing, and social settings, with many feeling unsafe in public spaces.

Conclusions: Stigma and discrimination are significant push factors driving MSM to leave Jamaica. The study highlights the need for policy reforms, including the repeal of discriminatory laws, implementation of anti-discrimination legislation, and greater public education to foster inclusion. Enhancing safe spaces and mental health support services is crucial to improving the quality of life for MSM and reducing the need for migration. Addressing these issues aligns with Jamaica's Vision 2030 goals and can contribute to social and economic development.

EP0749

Engaging displaced girls as leaders in HIV conversations and Sexual and Reproductive Health and Rights (SRHR): a case study from Adamawa State, Nigeria

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Background: According to Humanitarian Need Response Plan (HNRP) report, conflict and insurgencies (like Boko Haram) have led to over two million internally displaced persons (IDPs) as of January 2025 in North-Eastern Nigeria. Around 7.8 million people urgently need aid, with young women and girls disproportionately affected, undermining their Sexual and Reproductive Health and Rights (SRHR) and increasing their vulnerability to HIV and other STDs. Displacement exacerbates misinformation, stigma, restricted access to essential services, unplanned pregnancies, and heightened STD risks.
Recognizing these challenges, the Today for Tomorrow Initiative developed a project to equip displaced girls from three Adamawa State IDP camps with vital SRHR and HIV education, along with leadership skills.
Description: Implemented from July 2021 to October 2024, this project trained 740 girls (185 yearly), aged 15–24, focusing on HIV prevention, leadership development, and SMART advocacy. After their intensive training, these girls facilitated weekly peer sessions in both IDP camps and host communities, establishing safe spaces for open dialogue on SRHR. Monthly healthcare professional visits and mentorship ensured consistent support, while local radio programs run by the girls reached broader audiences.
Lessons learned: Social and behavioral change can be achieved using a Target Right Holders approach, where direct engagement and co-implementation by beneficiaries fosters ownership. Through this strategy, 740 girls reached 7,401 peers affected by displacement.
A post-monitoring approach at mid-year intervals demonstrated a 76% improvement in knowledge of SRHR and HIV prevention. HIV testing increased by 37%, and 40% of married young women adopted family planning methods, reversing the trend of high birth rates among younger mothers.
One participant advanced to a National Diploma program in Sexual Reproductive Health and intends to become an expert, illustrating the broader impact on personal development.
Conclusions/Next steps: This rights-holder inclusion initiative highlights the transformative potential of engaging displaced girls and young women as leaders in SRHR and HIV education in conflict settings. Beyond imparting knowledge, nurturing leadership creates sustainable advocacy and community-driven progress.
Scaling this model to other conflict-prone areas and IDP camps is imperative. By involving them in advocacy, these programs foster not only immediate health gains but also sustainable community involvement.

EP0750

PrEP4Her: a gynecology clinic-based multi-level intervention to increase PrEP prescriptions among women in the southern United States

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Background: In the Southern United States, HIV racial disparities among women remain consistent despite the availability of effective biomedical interventions. Studies indicate that women prefer to receive PrEP in non-HIV settings, like gynecology (GYN) clinics. However, few studies have developed effective interventions for GYN clinics.
We developed and pilot-tested a multi-level, GYN clinic-based intervention (PrEP4Her) over 6-months, including the evaluation of PrEP prescription increases, and feasibility and acceptability of the intervention.
Methods: The multi-level PrEP intervention implemented between January-August 2024 included: asynchronous clinic-wide trainings, pocket clinical care guides, client brochures, a PrEP order set in the electronic health record (EHR), a client and provider PrEP informational website, and a PrEP champion consultant.
Data including demographics, sexual health history, health behaviors and clinic-based PrEP engagement were collected during clients' routine care visit to the GYN clinic. EHR data captured the number of PrEP prescriptions prescribed throughout the study period. SAS statistical software, version 9.4, was used for demographic tables and frequency distributions.
Results: In total 311 consented to participate, 258 had fewer than 18 missing responses and were included, resulting in a sample size of n=258. Most women (69%) identified as Black/African American and reported less than a college education (80%). Most respondents, 79%, were Medicaid enrolled with annual household incomes less than $30,000 (67%).
When surveyed about sexual behaviors, 82% of women reported having vaginal or anal sex within the past six months and 52% indicated they never used condoms

when having any type of sex. Preliminary results show more than half of respondents saw HIV prevention or PrEP materials in the clinic (58%) and 45% spoke with her provider about PrEP. Thirty-one women (12%) self-reported being prescribed PrEP during their clinic visit. Among them, 20 PrEP prescriptions were verified in the EHR.
Following discussions about PrEP with their provider, women felt comfortable talking about PrEP (84%), understood PrEP side effects (83%), and discussed paying for PrEP (77%).
Conclusions: Multi-level interventions address barriers to PrEP prescriptions and ultimately have the potential to decrease HIV rates among marginalized populations, like Southern, Black women in the United States.

EP0751

Clarifying AIDS-related mortality: exploring the causes of death among PLHIV in Jamaica accessing care at Jamaica AIDS Support for Life (JASL)

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Background: AIDS-related mortality in Jamaica is currently assessed by including all deaths among people living with HIV (PLHIV), regardless of the actual cause. This broad approach impacts the perceived effectiveness of HIV treatment programs and may obscure critical healthcare gaps. Differentiating between AIDS-related and non-AIDS-related deaths is essential for accurately evaluating the impact of antiretroviral therapy (ART), identifying service delivery shortcomings, and designing targeted interventions to reduce preventable deaths.
Jamaica AIDS Support for Life (JASL), a community-based organization with retention rates exceeding 90%, provides a robust dataset for such an analysis and contributes significantly to the national HIV response.
Methods: A retrospective desk review was conducted on all PLHIV on the JASL register reported deceased between January 1, 2018, and December 31, 2022. Data collection involved three key methods: case identification through the Treatment Services Information System (TSIS), validation with the National Death Registry via the Registrar General's Department, and verification through consultations with immediate family and friends when official records were unavailable.
Results: A total of 52 death records were identified, consisting of 21 females and 31 males, with 16 self-identifying as men who have sex with men (MSM). Among these, the cause of death was determined for 45 cases. Verification sources indicated that 56% of deaths were confirmed through the Registrar General's Department, 31% through family and medical staff, while 12% remained unknown. The primary causes of death included advanced HIV disease (25%), co-morbid conditions including cancer (46%), violent deaths, including murder and suicide (19%), and motor vehicle accidents (2%).
Conclusions: While HIV continues to contribute to adverse health outcomes, a considerable number of deaths are linked to non-HIV-related conditions. However, the interplay between HIV and co-morbidities should not be overlooked. The high number of violence-related deaths, particularly among MSM(9 of 10 cases), underscores the urgent need for targeted violence prevention strategies within HIV programming. A holistic approach is necessary, integrating ART education, retention efforts, and comprehensive co-morbidity management to improve survival outcomes.
Further exploration of the socio-cultural context of MSM in Jamaica is critical to addressing underlying factors contributing to violence and stigma within this vulnerable population.

EP0752

Transforming HIV prevention & care: tailored solutions through prioritizing sociodemographic profile of PWIDs through integrated One Stop Centre Intervention Project funded by GFATM in India

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Background: Though the overall adult HIV prevalence remains low in India, HSS 2021, HIV prevalence was estimated to be at 9.03% among PWID. Complementing Govt. of India's effort to end AIDS by 2030, Plan India is implementing innovative One Stop service project for PWID through community led One Stop Centre project funded by The Global Fund.
Description: The project is guided by three strategic objectives:
1. To reach out to and identify new & unreached PWID population through expanding service coverage beyond HIV prevention,
2. To provide enabling environment to the PWID community and thus, reduce Stigma & Discrimination,
3. Empowerment of the PWID communities through generating awareness and linking them with several social welfare and entitlement programme.
Project reached to more than 13,700 PWID during October,22 to December, 24. The data has been analysed using SPSS 26.
Lessons learned: More than 13,700 PWID has been reached through this intervention. Around 86% of the registered clients were aged less than 34 years with a mean age of 27 years. 44% (n=13759) have completed secondary education, and 15% have completed higher secondary education while 18% are illiterate.
Mostly (58%) are dependent on daily wage earnings, while 21% are unemployed. While overall positivity remained at 5.4%, Positivity is marginally higher in the age group less than 34, compared to more (OR=1.73; CI: 1.334 – 2.240).
Positivity remained higher among the illiterate & secondary educated group (OR=1.334; CI: 1.08 – 1.636), compared to those with higher education. 60% of the client received general physical check-up and provided with blood pressure and blood sugar screening. 15% of the client provided with overdose prevention and management orientation.

Conclusions/Next steps: Integration of general health services beyond HIV testing is a vital strategy to respond to the unmet needs of PWID population with varied sociodemographic profile. While, Plan India's OSC project demonstrates a one stop solution for medical and additional services for the communities most vulnerable, it suggests that the service delivery needs to be prioritized based on sociodemographic profile of the client. Differentiated HIV testing and services be prioritized based on the profile of the client.

EP0753

Expanding PrEP preference: the introduction of ED PrEP in South Africa through POP INN clinics

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Background: Access to pre-exposure prophylaxis (PrEP) for key populations, such as men who have sex with men (MSM) plays a crucial role in reducing HIV acquisition rates . The use of PrEP is a personal journey with regimen preferences needing to be prioritised. The Aurum Institute, servicing MSM was the first to implement ED PrEP in South Africa with the aim to influence policy and guideline change and offer a suitable and safe alternative of PrEP regimen to MSM. Regimen choice is very important as risk profiles fluctuate and this necessitates the offering of regimes that take this into account.

Methods: From April 2022 to December 2024, all clients presenting at the Aurum clinics servicing MSM across five districts completed a PrEP risk assessment and were screened for eligibility of Event-driven PrEP. Clients that were eligible were given a diary to track their pill intake and medication to assist them to adhere to the 2+1+1 regimen.

Results: From April 2022 to December 2024, a total of 30,805 clients were offered Event-Driven (ED) PrEP to MSM across five districts in SA. Of these, 29,901 were screened, 11,298 were found eligible, and 5,291 subsequently initiated on ED PrEP. The eligibility rate for ED PrEP was 38%, with an initiation rate of 47%. Throughout the five districts under study, 216 clients transitioned from daily PrEP to ED PrEP, while 35 moved from ED PrEP to daily PrEP.

Conclusions: The introduction of the ED PrEP regimen has proven effective in expanding preferences and uptake of PrEP. Clients have autonomy over their PrEP usage. Daily PrEP also produces a pill burden that is not necessarily required, should the individual be at low risk or have infrequent condomless sex.

Event Driven-PrEP presents a safe alternative solution to MSM and TGW for HIV prevention, enabling them to take PrEP on demand based on high-risk sex acts and fluctuating risk profiles. The regimen has been well understood and adopted by the target population.

EP0754

"A life changer, miraculous thing": PrEP awareness, access, and use among trans women in Ghana

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Background: Transgender women in Ghana have the highest HIV prevalence at 48.1%, yet little is known about their knowledge and use of pre-exposure prophylaxis (PrEP). Our study examined PrEP awareness and use among trans women and their experiences and needs regarding PrEP.

Methods: This cross-sectional qualitative study examined transgender health needs in Accra, Ghana. Between June-July 2024, we conducted two focus group discussions (FGDs) with seronegative trans women (n=15) and three FGDs with trans women living with HIV (TGW LWH;n=18) using purposive sampling. Eligibility criteria were ≥18 years; identify as trans female; seropositive/seronegative; and live in Accra. Interviews were transcribed and analyzed using thematic analysis.

Results: Mean age of participants was 25.9 years. Among seronegative trans women, most had heard of PrEP and 60.0% (n=9) had enrolled on it at some point. Many TGW LWH were also aware of PrEP; 50.0% (n=9) reported that their current/recent sexual partners used PrEP with them, 27.8% (n=5) did not use PrEP, and 16.7%(n=3) did not know their partner's PrEP status.

Many trans women considered PrEP as useful/helpful, "a life changer, miraculous thing". Some took PrEP regularly while others engaged in event-driven dosing. Factors causing participants to stop taking PrEP included medication side effects, size of pills, stigma, and busy schedules. Some engaged in risk compensation, such as condomless sex while using PrEP. Many felt that PrEP services were not trans-friendly or trans-specific.

TGWLWH reported that they never took PrEP prior to seroconversion because of lack of availability or knowledge of it. A few were previously enrolled. Many shared that they wished they knew of PrEP while they were seronegative.

A few trans women encouraged their sexual partners to use PrEP or have partners who use it to reduce transmission risk.

Despite living with HIV, a few people shared that they use PrEP, indicating a misunderstanding of how PrEP works.

Conclusions: Trans women in Ghana are aware of PrEP, with varying levels/histories of use and multilevel barriers impacting access and adherence. PrEP programming tailored to the unique needs of trans women will be key to improving PrEP knowledge/use among seronegative trans women and partners of TGW LWH.

EP0755

HIV and STI prevention experiences of transgender women in Accra, Ghana

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Background: Transgender women in Ghana have an HIV prevalence of 48.1%, indicating a high need for tailored HIV prevention programming. Yet little is understood about their unique HIV prevention needs. Our study examined trans Ghanaian women's experiences with HIV prevention services and factors shaping their access and use of these services.

Methods: This was a cross-sectional qualitative study in the Accra, Ghana. Using purposive sampling, we conducted two focus group discussions (FGDs) between June-July 2024 with HIV-negative trans women(n=15) about their experiences with HIV prevention services. Eligibility criteria were: identify as trans female; ≥18 years; HIV-negative; and live in Accra. FGD transcripts were analyzed using thematic analysis.

Results: Mean age of participants was 25.8 years. About 66.7% had tested for HIV ≤1 year, while 46.7% had tested for an STIs≤1 year. Nearly 60.0% had a history of PrEP enrollment, with many sharing that accessibility, medication side effects, and stigma were barriers to enrollment/adherence. Many participants shared that they get HIV prevention services from peer educators and key population-friendly clinics. They lamented that most HIV prevention programs/services targeted gay, bisexual, and other MSM, often forcing trans individuals to identify as MSM to access services. Participants commonly faced gender identity-based stigma/discrimination when accessing clinic-based STI/HIV prevention services, causing them to avoid services. Additional barriers to services included a lack of professional care that is gender-affirming at clinics; inadequate trans staff at clinics; unaffordability of non-free services; and judgmental attitudes of healthcare workers rooted in religious beliefs and transphobia. Some participants reported being questioned/denied service by pharmacies when they go to purchase certain STI/HIV prevention products due to their gender identity/presentation. Many thus relied on peer educators for delivery of products such as condoms/lubricants and PrEP due to such stigma/discrimination and transportation access/cost, underscoring the need for diverse service delivery programming. Participants emphasized the urgent need for dedicated trans-friendly and trans-staffed facilities that are gender affirming to address these challenges.

Conclusions: Trans women in Ghana face significant socio-structural barriers, including transphobic stigma/discrimination and inadequate gender-affirming HIV prevention services. Tailored, accessible, trans-affirming services and peer-led interventions are essential to addressing unmet needs and improve HIV outcomes.

EP0756

Violence, housing and mother-child co-habitation among female sex workers living with HIV in Durban, South Africa

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Background: Female sex workers (FSW) in South Africa experience a high burden of physical and sexual violence that affects their overall health and wellbeing. The majority of FSW in South Africa are also mothers.

While sex work is often a means to provide for families, FSW have reported not living with their children, in part to shield their children from potential violence associated with sex work.

Methods: This analysis used data from the *Siyaphambili* study in Durban, South Africa, a randomized intervention implemented among adult FSW living with HIV aimed at improving antiretroviral therapy outcomes. Modified Poisson regression with robust variance estimation was used to quantify the association between experiencing physical and/or sexual violence ≤6 months and whether mothers lived with their children.

Other covariates of interest included age, education, current homelessness, ability to meet financial needs, drug use in the past month, and heavy drinking.

Results: 1,021/1,373 FSW in this study were mothers and included in this analysis (median age:32, IQR:28–38), of which 740/1,021 (72.5%) reported not living with their children. 59.8% (610/1,021) of mothers reported at least one recent experience of violence, with FSW who did not live with their children being more likely to experience this violence than those who did (63.8% vs. 49.1%, p<0.01).

Current homelessness was reported by 25.2% (257/1,021) of mothers, including 31.1% who did not live with their children and 9.6% who did (p<0.01).

Having had a recent experience of violence and homelessness were associated with a lower prevalence of living with children (aPR:0.82, 95%CI:0.67–1.01 and aPR:0.31, 95%CI:0.21–0.46, respectively).

Conclusions: This analysis highlights disparities in family structure, violence experiences, and housing instability among FSW living with HIV in South Africa. While FSW may not live with their children for myriad reasons, unsafe living conditions can further catalyze the separation of mothers and children and negatively impact both physical and mental health.

In the context of pervasive HIV and sex work-related stigmas, strategies and interventions that support the prevention and mitigation of physical and sexual violence, along with access to safe living spaces, should be explored to further address barriers to mother-child co-habitation among FSW.

EP0757

Assessing HIV epidemic control variables among key and general populations in Northern Nigeria

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Background: The UNAIDS 95-95-95 target aims to diagnose 95% of HIV-positive individuals, provide ART for 95% of those diagnosed, and achieve viral suppression for 95% of those treated by 2030. The Society for Family Health, in collaboration with the Nigerian government and the Institute of Human Virology Global Fund Nigeria TB/HIV Reach and Impact Project, supports efforts to meet these goals through targeted case-finding, retention in care, and viral suppression.

This study investigates the epidemic control variables of 95-95-95 among key and general populations in health facilities across Northern Nigeria.

Methods: A retrospective, descriptive cross-sectional study was conducted using RADET data from January to December 2024. Data covered OSS clinics and supportive health facilities in Kwara and Gombe states, with one year of review for key populations and six months for the general population (Jan–December 2024).

Results: In Kwara state, 757 clients (260 males, 497 females) tested positive and were linked to treatment, with 302 deaths (121 males, 181 females). Among key populations, 358 individuals (121 males, 237 females) tested positive, with three deaths (all female). Gombe state recorded 1,030 clients (401 males, 629 females) testing positive, with 327 deaths (162 males, 183 females). Among key populations, 189 individuals (97 males, 92 females) tested positive, with 12 deaths (8 males, 4 females). Retention rates were 99% in Gombe and 97.33% in Kwara, with viral suppression rates of 95% and 94.2%, respectively.

Age significantly predicted both new HIV cases (β = 24.333; t = 3.48; p = .002) and deaths (β = 9.48; t = 2.595; p = .015), with most cases occurring among those aged 25–49 years. Gender was not a significant predictor for either outcome.

Conclusions: While progress toward epidemic control is evident among the general population, rising new cases among key populations emphasize the need for differentiated care and enhanced adherence strategies to improve outcomes and reduce mortality, particularly in high-risk age groups.

EP0758

Patient-provider relationship and engagement in HIV care: perspectives of Black men who have sex with men (BMSM) in the NNHIV cohort study

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Background: BMSM are disproportionately affected by the HIV epidemic in the U.S., experiencing lower rates of viral suppression and higher morbidity and mortality. We examined how patient-provider relationships influence BMSM's ability to manage HIV infection.

Methods: We conducted in-depth interviews (IDIs) with 31 BMSM enrolled in the Neighborhoods, Networks and HIV Care among Men Who Have Sex with Men (NNHIV) longitudinal study.

Eligibility criteria included:

1. At least 16 years old;
2. Self-reported male sex at birth;
3. Living with HIV;
4. Reported anal sex with a man in the past 6 months, and;
5. Resided in New York City.

Data (CASI and blood draw) were collected every 6 months. The IDIs were transcribed verbatim, coded using NVivo, and analyzed using a thematic approach.

Results: Of the 31 BMSM (mean age 44.7 ± 11.9; and years since HIV diagnosis 14.4±9.3). All participants were retained in HIV care, and 54.8% were virally suppressed (<20 copies/mL). Most participants reported that their relationship with their provider positively influenced their HIV health outcome, such as viral suppression and medication adherence.

However, some felt it had no effect, while others believed it had a negative effect. Dissatisfaction with care included feelings of being rushed, poor communication, high provider turnover, and not being understood, with one participant sharing, "I've been treated like a docket."

A trusting, collaborative relation with open communication and consistency from both parties was considered essential for engagement in HIV care, with one participant stating, "This is my body. It is not the doctor's body. I am going tell the doctor what I think, and the doctor is

going to give me advice. I am going to make the final decision." Provider characteristics seen as facilitators included being patient-centered, knowledgeable, non-judgmental, capable of offering constructive feedback, and actively involving patients in managing their care. Patient characteristics viewed as facilitators included self-management, a strong desire to live, and active involvement in accessing care.

Conclusions: The findings provide recommendations for strengthening patient-provider relationships, including building trust, providing patient-centered care, and enhancing patient self-management, with an aim to improve engagement in HIV care among BMSM.

Mental health and well-being interventions, programmes and models

EP0759

Mental health status among female sex workers in Nepal

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Background: Female sex workers (FSWs) in Nepal face significant mental health challenges due to pervasive stigma, discrimination, and socio-economic marginalization. These factors contribute to high rates of depression, anxiety, and trauma, yet mental health services tailored to their needs remain limited. This study explores the mental health status of FSWs, highlighting the impact of societal exclusion and gaps in support systems.

Methods: A mixed-method approach was used, combining quantitative and qualitative data collection. Semi-structured interviews, focus group discussions (FGDs), and key informant interviews were conducted with 80 FSWs across six provinces: Bagmati, Gandaki, Madhesh, Lumbini, Sudurpaschim, and Koshi. Data analysis focused on identifying common mental health issues, coping mechanisms, and access to services.

Results: The study revealed that 67% of participants reported symptoms of depression and 54% experienced severe anxiety. Many cited societal stigma and economic insecurity as primary stressors. FSWs frequently faced emotional isolation, exacerbated by fear of legal repercussions and social exclusion. Only 23% had accessed any form of mental health support, largely due to a lack of tailored services and fear of discrimination. Participants emphasized the need for community-based mental health programs integrated with existing sexual and reproductive health services.

Conclusions: Mental health challenges among FSWs in Nepal are profound and closely linked to stigma, discrimination, and economic vulnerabilities. Addressing these issues requires comprehensive, stigma-free mental health services integrated into broader health initiatives. Community-based support networks and targeted interventions are essential to improving the well-being and resilience of FSWs. Reducing societal stigma and ensuring accessible mental health care are critical steps toward enhancing their overall quality of life.

EP0760

Promoting adolescent access to mental health support and sexual and reproductive health services through safe desks in rural clinics of Choma District, Zambia

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Background: Adolescents in rural Zambia face barriers to accessing sexual and reproductive health (SRH) services, including stigma, lack of privacy, and limited youth-friendly facilities. Adolescents living with HIV encounter additional challenges related to mental health stigma and inadequate support. Data from Lifeline/Childline Zambia shows that over 40% of adolescent callers seek counseling on HIV prevention and SRH. This highlights the need for tailored interventions.

This project aimed to increase access to SRH services and mental health support through adolescent safe desks in Choma District, Zambia.

Description: The 12-month intervention established adolescent safe desks in rural clinics, providing confidential SRH counseling, HIV testing, mental health screenings, psycho-social support, and referrals. The desks were managed by trained peer educators and healthcare providers. Key activities included community sensitization, school outreaches, and awareness campaigns to reduce stigma and encourage service uptake. The target population was adolescents aged 10–19, particularly those living with HIV. Lifeline/Childline Zambia's data informed the identification of health needs, ensuring the intervention was tailored to the adolescents' specific needs.

Lessons learned: Community engagement, including sensitization and school outreach, helped reduce stigma and built trust in the healthcare system, resulting in a 35% increase in clinic visits and a 20% rise in HIV testing uptake. Peer educators played a vital role in creating a supportive environment, fostering trust among adolescents. The integration of mental health support with SRH services proved effective, addressing both physical and psychological needs. Preliminary feedback showed improved mental well-being among adolescents living with HIV.

Conclusions/Next steps: The findings indicate that integrating SRH and mental health services is critical to improving adolescent health outcomes, particularly for those living with HIV. Future steps include expanding the model to other rural districts, enhancing data collection, and strengthening local partnerships to ensure sustainability. This integrated care model can be adapted for other regions to contribute to broader HIV prevention and mental health strategies for adolescents in sub-Saharan Africa.

EP0761

Understanding suicidality among young people living with and affected by HIV: a systematic review

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Background: Suicide is a leading cause of death among young people (10-24 years) and suicidality a major driver of concern. For young people, living with or having family affected by HIV may increase vulnerability to suicidality, yet few evidence-based mental health interventions for this population exist.

To inform future research and intervention among this vulnerable population, this systematic review sought to identify prevalence and determinants of suicidality among young people.

Methods: Using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, a systematic review of four online databases from January 1, 2008, to August 14, 2023 was completed.

English-language, peer-reviewed studies of any design that satisfied all of the following criteria were included:

1. Data primarily collected from 2008 onwards;
2. Study sample with mean or median age between 10 and 24 years, and;
3. Findings reported on suicidality of young people living with or affected by HIV.

Results: Among 3,737 articles identified, 54 met the above criteria. These studies took place across 19 countries, 17 included a specific study aim focused on suicidality, and only 6 studies presented data from young people affected by HIV. Regarding suicidality prevalence data: 23 studies reported on suicidal ideation (range: 0-36.4%); 13 reported on suicide attempts (range: 0.2-30.4%), and 2 reported on death by suicide (0.17 and 2.8%).

Twelve studies identified demographic, clinical, and psychosocial factors significantly associated with suicidality; depression was most consistently associated with increased likelihood of suicidality.

Conclusions: This review identified a wide prevalence range of suicidal ideation and suicide attempts among young people living with or affected by HIV. Yet, few of these studies were explicitly focused on suicidality or assessed factors associated with suicidality. Depression was the factor most frequently associated with suicidality, indicating a need for tailored mental health interventions. To close research gaps, we recommend purposely: moving beyond cross-sectional study designs, assessing protective factors, and recruiting outside health care settings and young people affected by HIV.

In settings with limited mental health services, clear and practical guidelines for the responsible conduct of research on sensitive topics such as suicidality are needed to facilitate future studies in this critical area.

EP0762

Association between quality of life and survival in HIV-associated lymphoma in Soweto, South Africa

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Background: HIV is associated with an increased risk of lymphoma. In South Africa (SA), real-world treatment outcomes suggest that people living with HIV (PLWH) with aggressive lymphoma have a markedly poor survival. In HIV-negative lymphoma patients, quality of life (QoL) has been shown to predict survival.

This study evaluates whether QoL at time of lymphoma diagnosis can predict survival in PLWH in SA.

Methods: We enrolled an observational cohort of PLWH ≥18 years diagnosed with aggressive lymphoma at Chris Hani Baragwanath Academic Hospital between March 2022 - July 2023 in Soweto, SA. QoL was assessed using the FACT-Lym scale. All participants were followed for up to 12 months. Consent for medical record review including demographics, measures of HIV control, performance status (PS) and clinical course was obtained. Categorical data were compared by Chi-Square and survival by Kaplan-Meier.

Results: Seventy-four PLWH were enrolled, including 46 males (62%) with a median age of 44.5 years (Interquartile range; IQR: 37-50). The median CD4 count was 198.5 (IQR: 93-352) and most were on antiretroviral therapy (89%). At enrolment, 46 (62%) had a PS ≥2, 49 (66%) were diagnosed with non-Hodgkin lymphoma (NHL) and 25 (34%) with Hodgkin (HL). PLWH were followed for a median of 253 days (IQR: 41-377) and 42 (57%) PLWH died. Median FACT-G and FACT-Lym scores at enrolment were 62.5 (IQR: 49-72) and 93.5 (IQR: 76-111), respectively. Mortality was associated with lower CD4 count (118 vs 263.5, p=0.002), lymphoma subtype (65% NHL vs 40% HL, p=0.038), PS ≥2 (81% vs 38%, p<0.001) and lower FACT-Lym score at enrolment (87 vs 102, p=0.043). Despite the higher mortality for participants with NHL, there was no difference in FACT-Lym scores between participants with NHL and HL. FACT-Lym scores did correlate with PS, a known predictor of mortality, as a PS ≥2 was associated with a lower FACT-Lym score (85.5 vs 107, p<0.001).

Conclusions: QoL at time of lymphoma diagnosis in PLWH is associated with mortality, as measured using the FACT-Lym scale. This represents an important tool to help identify high-risk PLWH for close monitoring and early palliative care intervention to improve outcomes.

EP0763

Mental health and well-being interventions for youth living with HIV in Africa: a systematic review

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Background: Youths aged 15–24 living with HIV in Africa face significant mental health challenges, including stigma, depression, and anxiety. These issues adversely affect their adherence to antiretroviral therapy (ART) and overall quality of life. This systematic review consolidates evidence on interventions to improve this population's mental health and well-being.
Methods: A systematic search of databases, including PubMed, PsycINFO, and African Journals Online, was conducted for studies published between 2000 and 2024. Eligible studies examined integrated HIV and mental health care, psychosocial support, and cognitive-behavioral therapy (CBT) targeting young people with HIV in African contexts. Data collection and analysis followed PRISMA guidelines, utilizing thematic synthesis for qualitative findings and meta-analysis for quantitative data.
Results: The review of 10 studies involving 3,800 participants across Africa revealed significant improvements in ART adherence, mental health outcomes, and resilience, with reductions in anxiety and depression. Peer-led initiatives like Zimbabwe's CATS program and integrated care models such as the Friendship Bench in South Africa and Zimbabwe were highly effective. Digital platforms like WhatsApp counseling in Kenya reduced stigma and offered scalable solutions. CBT in Uganda and stigma reduction campaigns in Malawi proved context-specific and impactful. Psychosocial support in Zambia and integrated HIV-mental health approaches in Nigeria enhanced resilience and ART adherence. Outcomes varied by age and gender, highlighting the need for culturally tailored and region-specific strategies.
Conclusions: Integrating mental health services into HIV programs is critical to addressing the multifaceted needs of young people living with HIV in Africa. Culturally tailored, community-driven, and scalable interventions are key to maximizing impact. Addressing gender-specific vulnerabilities and expanding access to evidence-based solutions are vital for improving mental health and ART adherence. Future research should focus on longitudinal studies to assess sustainability and scalability, particularly in low-resource settings where digital technologies hold substantial potential. These findings offer actionable insights for advancing HIV care and mental health support policies and practices across the continent.

EP0764

Empowering women through community-led peer support networks for improved mental health and HIV care in Morogoro, Tanzania

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Background:
The Women Rise Foundation's peer support program, launched in 2024 in Morogoro, Tanzania, supports women living with HIV. It aims to reduce stigma, improve mental health, and enhance treatment adherence through safe spaces, counseling, and education. The program has engaged 150 women, offering 500+ counseling sessions and 1,000 informational materials.
Description: The Women Rise Foundation's peer support program, launched in January 2024 in Morogoro, Tanzania, targets women aged 18-45 living with HIV. It operates in urban and rural areas with high HIV prevalence and limited mental health services. The program includes 10 peer support groups led by trained women living with HIV. Key interventions include biweekly group meetings, one-on-one counseling, mental health education, and referrals to mental health professionals. Over 500 counseling sessions and workshops have reached 150 women, with more than 1,000 women receiving informational materials. The program fosters resilience and empowerment while improving HIV treatment adherence.
Lessons learned: The Women Rise Foundation's peer support program improved ART adherence and reduced stigma among women living with HIV, with 78% reporting improved adherence and 85% feeling less isolated. Key lessons included the value of culturally tailored approaches, such as using local language and traditions, and the importance of ongoing peer leader training. Community involvement, partnerships with health facilities, and engaging local leaders reduced stigma and ensured sustainability.
Challenges like transportation for rural participants were addressed through resource mobilization. Best practices, including biweekly support meetings and mental health education integration, provide a scalable model for enhancing HIV care outcomes globally.
Conclusions/Next steps: The Women Rise Foundation's peer support program highlights the significant impact of addressing mental health in women living with HIV, improving ART adherence and reducing stigma. This approach underscores the importance of integrating mental health into HIV care to enhance treatment outcomes. Expanding the program to underserved rural areas, strengthening collaborations with health facilities and policymakers, and refining peer support models through ongoing evaluations will ensure sustainability.

Advocacy for mental health prioritization in HIV care and capacity building for peer leaders are critical next steps. This program provides a replicable model for improving health outcomes in the global HIV response.

EP0765

Predictors of internalising mental disorders among Ugandan children and adolescents living with HIV: a machine learning approach

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Background: In Uganda, 12-27% of children and adolescents living with HIV (CA-HIV) are affected by prevalent internalizing mental disorders (IMDs). These disorders do not only contribute to impaired quality of life but also to accelerated HIV disease progression, increased healthcare utilization, poor adherence to medical care, and risky sexual behaviors.
There is need for tools to identify at risk youth for IMDs in order to implement early interventions to prevent the associated morbidity. Machine learning (ML) algorithms with their ability to handle large and complex data offer promise as possible predictive tools. This study evaluated ML models to predict prevalent IMDs among Ugandan CA-HIV.
Methods: Data from 736 Ugandan CA-HIV participants (368 IMD cases, 368 controls) from the MRC CHAKA Study (2014-2017) on mental health among HIV-infected children and adolescents in Kampala and Masaka, Uganda was analyzed. The dataset was split into training (70%), validation (10%), and testing (20%) subsets.
Supervised machine learning models were developed using the Scikit-learn library in Python (version 3.11.5) to predict prevalent IMDs, with performance evaluated via F1-score metrics.
Results: Psychosocial predictors alone yielded an F1 score of 82.76%, with key predictors being education level, age, gender, and psychosocial stress. Biological predictors achieved F1 score of 80.85%, driven by baseline and 12-month telomere lengths. Genetic predictors achieved F1 score of 80.85%, with *TPH2 rs1386494* and *TPH2 rs1843809* polymorphisms as key predictors of prevalent IMDs.
Combining all predictors resulted in an F1 score of 78.41%, with significant factors including baseline telomere length, religion, gender, 5-HTTLPR polymorphism, and stress.
Conclusions: This study demonstrates that psychosocial, biological, and genetic predictors play significant roles in prevalent IMDs among CA-HIV. Psychosocial predictors, like education, age, gender, and stress, were the strongest predictors, achieving the highest model performance. There is need for larger and more diverse datasets to Improve ML performance.

EP0766

Exploring the impact of social anxiety and mental health literacy on depression symptoms among young People Living with HIV based on a quantile regression model

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Background: Poor mental health can lead to adverse outcomes, including reduced immune function and faster disease progression. In China, the increasing number of young people living with HIV (PLWH) underscores the importance of understanding their mental health and related factors to design effective psychological interventions.
Methods: This cross-sectional study was conducted at a designated medical institution providing outpatient antiretroviral therapy. Established psychological scales were used to assess depression symptoms, mental health literacy and social anxiety among young PLWH. Quantile regression analysis was used to establish regression model curves at the 25th, 50th, and 75th percentiles, with different dimensions of social anxiety and mental health literacy as independent variables and depressive symptoms as the dependent variable. All scales demonstrated good reliability and validity (Cronbach's alpha > 0.85), with significance set at α = 0.05.
Results: The study collected data from 184 young people living with HIV receiving treatment at the outpatient clinic from October 2023 to July 2024, of whom 99% (183/184) were male; one female participant was excluded from the analysis. Among the 183 male participants, the median age was 25.60 years (IQR: 23.38–27.62), 53.55% had a bachelor's degree or higher, and 96.17% were single. The median PHQ-9 score was 9.0 (IQR: 3.5–14.5), with 68.85% experiencing mild or higher depressive symptoms.

Variables		Quantile percentages		
		q=25	q=50	q=75
Different dimensions of Mental health literacy	Knowledge	-0.002(-0.562,0.245)	-0.012(-0.428,0.142)	0.008(-0.437,0.346)
	Recognition	0.345(0.018,0.898)	0.431(0.258,1.004)	0.782(0.643,0.894)
	Attitude	-0.599(-0.819, -0.31)	-0.748(-0.903, -0.388)	-0.486(-0.625, -0.313)
	Behavior	-0.492(-0.895,0.119)	-0.305(-0.627,0.091)	-0.361(-0.745,0.008)
Different dimensions of social anxiety	Social recognition anxiety	0.176(0.018,0.429)	0.226(0.161,0.415)	0.339(0.062,0.43)
	Privacy concern anxiety	0.092(-0.131,0.337)	0.171(-0.012,0.356)	0.216(0.006,0.486)
	Interaction anxiety	0.315(0.137,0.436)	0.37(0.187,0.498)	0.283(0.22,0.566)

Mental health literacy dimensions "recognition" and "attitude" significantly influenced depressive symptoms, with "recognition" positively associated with depression and

"attitude" negatively associated. The strongest effect of "attitude" was observed at the 50th percentile. Social anxiety dimensions "social recognition anxiety" and "interaction anxiety" significantly affected depressive symptoms, while "privacy concern anxiety" was significant only in severe cases. "Social recognition anxiety" had a stronger effect at higher depressive levels, while "interaction anxiety" peaked at the 50th percentile.

Conclusions: Tailored interventions targeting these factors at different levels of depression may enhance the effectiveness of psychological support for young PLWH.

EP0767

Integrating mental health and psychosocial support to improve maternal health outcomes for adolescent and young mothers (aged 10-24 years) in Hatcliffe, Zimbabwe

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Background: Adolescent and young mothers in Zimbabwe, face significant mental health challenges such as depression and anxiety due to high levels of poverty, stigma and discrimination, GBV, HIV and limited access to healthcare services. These challenges, compounded by early motherhood, increase their vulnerability to common mental health disorders such as depression, negatively impacting maternal outcomes.

Recognizing this, REPSSI developed and tested a model that integrates mental health and psychosocial support with SRHR services to improve wellbeing of this population.

Description: The intervention was designed based on a psychosocial understanding of the interplay between mental well-being, socio-economic determinants, and nurturing capabilities. It incorporated a range of strategies such as economic strengthening initiatives and engagements with community leaders to promote empowerment of young mothers and create an enabling environment for their mental well-being. The intervention focused on providing accessible and culturally sensitive peer led mental health services. This included individual support, group therapy, and education sessions. These activities provided a safe space for them to address their psychological challenges faced such as parental stress, isolation, suicide ideation, and depression.

Lessons learned: The 2023 Endline Report showed an improvement in adherence to treatment and mental health outcomes, with suicidal ideation decreasing from 32% at baseline to 9% at endline. Anxiety levels significantly decreased, with average scores dropping from 40.1 to 18.6. The intervention led to a 27% increase in young mothers reporting independent income illustrating the important role played by economic independence for young mothers, contributing to reduced parental stress. Additionally, the community engagement and creation of safe spaces led to increased feelings of safety, with respondents reporting a rise in community support and emotional and financial support from their partners.

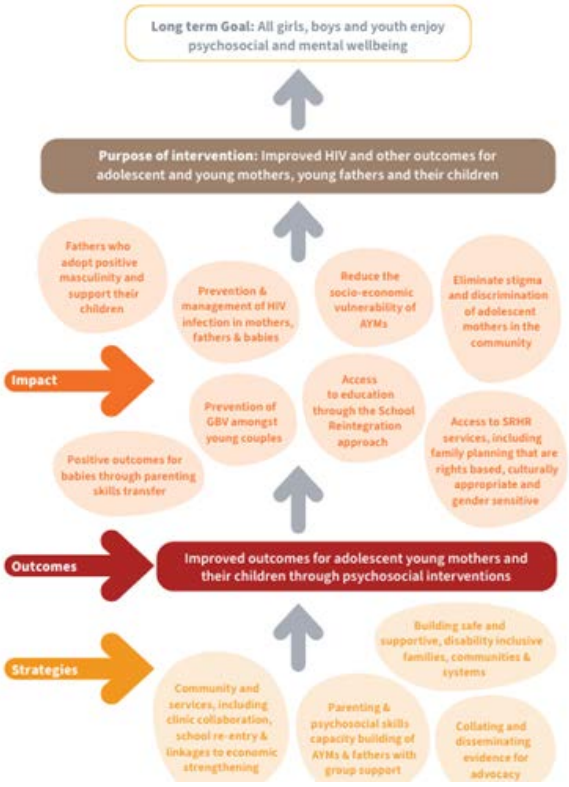


Figure. Theory of Change.

Conclusions/Next steps: By addressing the psychosocial and economic needs of young mothers, REPSSI's model enhances resilience, promotes SRHR access, and improves their mental wellbeing.

EP0768

Correlates of lifetime use of mental health and substance use services among youth with HIV in the United States

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Background: Youth and young adults with HIV (YWH) have higher rates of substance use (SU) and mental health (MH) challenges, including depression, anxiety, and post-traumatic stress disorder (PTSD). Despite the needed support for YWH in the US, many do not obtain MH or SU services due to barriers such as access, financial and housing instability, and stigma. We examined correlates of having ever used MH and SU services among YWH in the US.

Methods: We used baseline data from YWH (18–29 years old) enrolled from 2023-2024 in a randomized trial addressing HIV care barriers, MH, and SU. We examined relationships between self-reporting of having ever used MH or SU services with correlates including housing stability, economic stability, stigma, sleep quality, social support,

and HIV knowledge. We examined descriptive statistics and used log-Poisson models with robust standard errors to estimate risk ratios (RRs) adjusted for age, sex at birth, and race/ethnicity.

Results: Among 91 YWH enrolled at baseline, the median age was 27 years (interquartile range 24-28), 34.1% (n=31) had moderate to severe symptoms of depression, 35.2% (n=32) had moderate to severe symptoms of anxiety, 30.8% (n=28) had moderate to severe SU disorder, and 27.5% (n=25) had a likely diagnosis of PTSD. Roughly 65% (n=59) had ever received MH services and 19.8% (n=18) had ever received SU services.

Of those with moderate to severe symptoms of depression, anxiety, or PTSD (n=40), 72.5% (n=29) had ever received MH services. Of those who reported moderate to severe SU disorders (n=28), 39.3% (n=11) had ever received SU services.

Those who had received MH services had lower HIV stigma (RR 0.9, 95% CI 0.96-1.00, p=0.024), and higher MH (RR 1.02, 95% CI 1.01-1.04, p=0.008) and SU treatment stigma (RR 1.02 95% CI 1.01-1.04, p=0.003). We did not observe statistically significant associations between other factors and MH services, or with SU services.

Conclusions: YWH who accessed MH services had lower HIV stigma but also higher stigma around MH and SU treatment. Interventions are needed to address stigma in seeking MH and SU care and to ensure that those who do access services receive quality care.

EP0769

The incidence of intentional self-harm in insured people with and without HIV in South Africa

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Background: The dual burden of HIV and suicide is a major public health concern in South Africa. This study investigates the incidence of intentional self-harm by HIV status among members of South African medical insurance schemes.

Methods: We analyzed claims data (01/2011-10/2022) from people with and without HIV aged ≥10 years who enrolled with a private-sector HIV program or a medical insurance scheme. We estimated the incidence of a first healthcare encounter for intentional self-harm by sex and HIV status using flexible parametric survival models, and calculated sex- and age-adjusted hazard ratios (aHR) for HIV and mental disorders using Cox models.

Results: We included 1,356,119 individuals, including 177,193 people with HIV. The incidence of a first intentional self-harm encounter per 100,000 person-years was 139. The highest incidence occurred in females with HIV in their early 20s, followed by females without HIV in their late teens, males with HIV in their mid-20s, and males without HIV in their early 20s *(Figure 1)*.

People with HIV were at modestly increased risk of intentional self-harm (HR 1.23, 95% CI 1.16-1.30), whereas people with mental disorders were at strongly increased risk *(Figure 2)*.

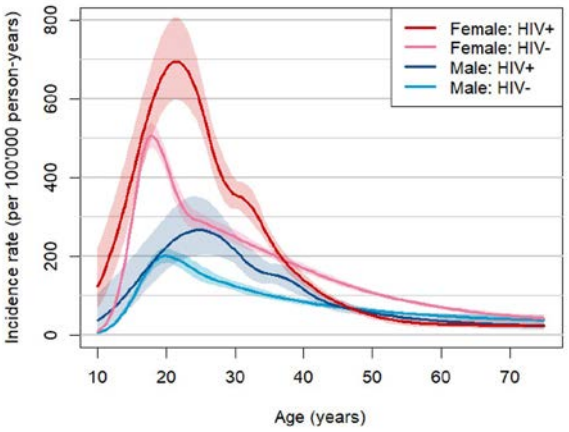


Figure 1. Incidence of a first intentional self-harm event by sex and HIV status as a continuous function of age.

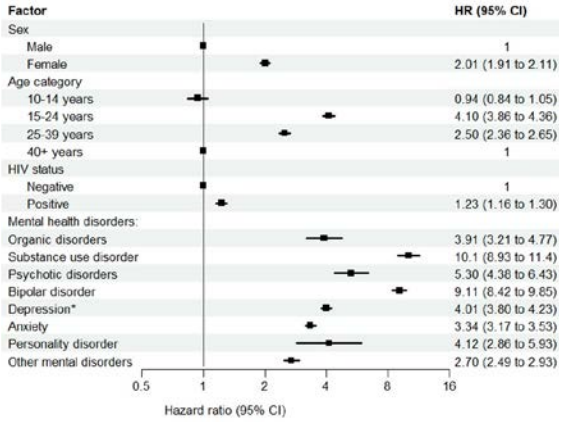


Figure 2. Risk factors for the first intentional self-harm encounter.

Conclusions: While 80% of the suicides in South Africa occur in males, we found a high incidence of intentional self-harm among young females. Importantly, our results suggest an increased risk for suicidal behavior among people with HIV, irrespective of sex.

Further research is needed to develop and evaluate models for integrating screening and management of suicidal behavior in South Africa's HIV treatment programs.

EP0770

Assessment of anxiety and depressive symptoms among gay, bisexual, and other men who have sex with men in Nepal: findings from a cross-sectional study

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Background: Anxiety and depressive symptoms among gay, bisexual, and other men who have sex with men (GBMSM) are growing public health concerns. Despite extensive global research on these issues among GBMSM, they are understudied in low- and middle-income settings like Nepal.
Therefore, the present study focused on assessing the prevalence and associated factors of anxiety and depressive symptoms among GBMSM in Nepal.
Methods: A nationwide cross-sectional online survey was conducted among 842 GBMSM in Nepal between March and May 2024. The generalized anxiety disorder (GAD-7) and the patient's health questionnaire (PHQ-9) were employed to assess anxiety and depressive symptoms, respectively. Bivariate and multivariate logistic regression analyses examined the relationships between the outcome variables (i.e., anxiety, and depressive symptoms).
Results: The participant's mean age was 27.6 (SD=7.1) years. Overall, anxiety and depressive symptoms among GBMSM were 36.0% and 33.8%, respectively. Engagement in transactional sex and substance use were associated with increased anxiety ([aOR: 1.6, 95% CI: 1.1-2.3] and [aOR: 3.0, 95% CI: 2.0-4.6], respectively) and depressive symptoms ([aOR: 1.5, 95% CI: (1.1-2.2)] and [aOR: 1.9, 95% CI: 1.3-2.9], respectively).
Participants who had engaged in chemsex were also more likely to have depressive symptoms ([aOR: 1.6, 95% CI: 1.1-2.3]). Conversely, single participants were less likely to experience depressive symptoms ([aOR: 0.7, 95% CI: 0.5-0.9]).
Conclusions: Our study revealed a noteworthy prevalence of anxiety and depressive symptoms among GBMSM in Nepal. These findings underscore the critical need for targeted mental health interventions, specifically tailored to address the unique needs of GBMSM engaged in substance use and chemsex.

EP0771

Integrating mental health support for adolescent girls and young women aged 15-24 years in HIV prevention program in Kenya

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Background: Adolescents and young adults attain optimal psychological, social functioning and well-being if they have adequate mental health. They possess a strong sense of self-worth and identity, healthy connections with their family and peers, ability to study and be productive, overcome developmental obstacles, and make the most of cultural resources to further their progress. Adolescents and young adults must maintain good mental health in order to engage in social and economic activities.
LVCT Health implements HIV prevention program offering life skills development, educational subsidies, and vocational training to females between the ages of 15 and 24. For this demographic, various stresses they encounter, including poverty, gender-based violence, and social stigma, worsen their mental health.
The abstract aims to describe how WHO-recommended interpersonal psychotherapy (IPT) was integrated to alleviate depression symptoms by enhancing interpersonal relationships and social functions among the girls.
Description: Mentors received training on IPT facilitation and used PHQ 2 and PHQ 9 tools to assess depression among the girls. Those with significant scores were grouped into 12-member cohorts for structured sessions facilitated by mentors, which included psychoeducation, skill-building exercises, and talk therapy. Assessments were done at midline and at termination of the sessions. Suicidal individuals were immediately referred to a psychologist.
Lessons learned: 8,787 Young women aged 15 to 24 years were sensitized on depression signs and symptoms. A total of 5,662 underwent PHQ-2 pre-assessment, and a further 3,302 were identified as depressed using PHQ-9. 3,275 participated in grouped IPT sessions. Average PHQ-9 scores stood at 13.6% at the start, decreasing to 4.4% at midline assessment and further dropping to 1.7% at termination.This confirmed decrease in depression symptoms at the end of the IPT sessions.
Conclusions/Next steps: Integrating interpersonal therapy within the HIV prevention program offers a promising avenue to address mental health concerns among Adolescents Girls and Young Women in Kenya. Scaling up the intervention and addressing attendance barriers could enhance mental health support for AGYW in a cost-effective and accessible manner.

EP0772

The impact of peer support on mental health outcome in HIV care at Baylor College of Medicine Children's Foundation Malawi in Lilongwe

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Background: Baylor College of Medicine Children's Foundation Malawi implements a peer support program aiming at improving mental health outcomes among young people living with HIV. The purpose of the program is to provide emotional support, counseling, and education to young people living with HIV. The objective of the program is to reduce symptoms of depression and anxiety, enhance quality of life, and promote adherence to antiretroviral therapy (ART).
Description: The peer support program is for a period of 24 months in Lilongwe. the program is structured into one-on-one mentoring and group sessions. Activities group discussions, counselling sessions and educational sessions through teen clubs. Interventions undertaken in support of the program includes training of peer supporters, supervision , social work and psychosocial referral-services.
Lessons learned: the program has so far reached 265 young people living with HIV, with 80% of participants experiencing positive outcomes, including reduced symptoms of depression and anxiety, and enhanced quality of life. the program has also increased social support, self-efficacy, and adherence to ART. Analysis of the programs\'s outcomes revealed that peer support is a critical component of comprehensive HIV care, addressing the complex mental health needs of young people living with HIV. Best practices includes the use of trained peer mentors, regular supervision, psychosocial referrals.
Conclusions/Next steps: Findings highlight the significance of peer support programs in improving mental health outcomes for young people living with HIV. It emphasizes the need to integrate peer support into existing HIV care services and calls for increased investment in these programs, particularly in resource-limited settings

EP0773

Psychometric properties of the IsiZulu version of the short HIV Stigma Scale (HSS) among adult people living with HIV in South Africa

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Background: The psychosocial impact of HIV/AIDS is often unique and complex across various context, necessitating reliable tools for assessing the psychosocial factors such as HIV-related Stigma in diverse populations. This study aimed to validate the 12-item HIV Stigma Scale (HSS-12) in a sample of adult people living with HIV (PLHIV) using cross-cultural adaptation and psychometric evaluation.
Methods: A cross-sectional design was used with a sample of 141 adult PLHIV recruited from a tertiary hospital in South Africa. The HSS-12 was translated into IsiZulu version, and its measurement properties were assessed using exploratory and confirmatory factor analyses.
Results: The scale reliability was robust, with an overall Cronbach's alpha of 0.88 and for subscales ranging from 0.74 to 0.83. The exploratory factor analysis supported a three-factor structure consisting of Personalised Stigma, Disclosure Concerns, and Internalized Stigma.
Confirmatory factory analysis revealed better fit indices for the theoretical four-factor model (RMSEA = 0.055, CFI = 0.97, TLI = 0.96) compared to the empirical three-factor model (RMSEA = 0.083, CFI = 0.93, TLI = 0.91). Both models demonstrated acceptable but varying fit across indices, which highlighted areas for improvement in measuring HIV stigma constructs.
Conclusions: The HSS-12 is a reliable and valid tool for measuring HIV-related stigma among IsiZulu-speaking South African PLHIV, with strong internal consistency and factorial validity. Its use can help researchers better understand how stigma affects health and well-being of PLHIV in South Africa.
Further improvements are recommended to enhance the fit of the scale for different cultures and populations.

EP0774

Enhancing mental health and sexual health literacy through digital platforms: InspireIT's innovative approach to HIV prevention

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Background: Adolescents in Nigeria face intersecting challenges of limited access to mental health support and comprehensive sexual health education. These gaps are exacerbated by stigma, cultural taboos, and a lack of inclusive platforms tailored to their needs.
InspireIT, supported by Africa REACH, developed a podcast that evolved into Red Ribbon, a digital health platform providing a safe space for adolescents to access reliable information on mental health, sexual health, and HIV prevention.
Description: The podcast initiative began with semi-structured interviews to identify knowledge gaps and psychosocial challenges faced by adolescent girls. Using this data, InspireIT produced engaging content that combined evidence-based SRH education with mental health topics such as managing stigma, building resilience, and fostering healthy relationships. Building on the podcast's success, the Red Ribbon platform integrates interactive tools, mental health resources, and digital literacy modules to address broader adolescent needs. Data collection includes podcast analytics, user feedback, and surveys of adolescents and stakeholders to refine the platform's design and impact.
Lessons learned: The podcast provided adolescents with a much-needed space to learn and discuss taboo topics, improving their mental health and confidence in

navigating SRH issues. Adolescents reported feeling more empowered and less stigmatised. The evolution into Red Ribbon reflects the importance of scaling innovative approaches to ensure sustainable, accessible support for adolescent mental health and HIV prevention. Preliminary insights indicate that interactive, adolescent-focused platforms can effectively combine SRH and mental health interventions.

Conclusions/Next steps: InspireIT's work illustrates the potential of digital health innovations to address the intersection of mental health and HIV prevention. Through integrating mental health support and sexual health education into a single, inclusive platform, Red Ribbon aims to build healthier, more resilient adolescents. This approach highlights the importance of holistic, community-centred strategies in advancing adolescent health and well-being.

EP0775

Dyadic internalized stigma, resilience, and psychiatric distress among people with HIV and their family members: An actor-partner interdependence mediation model analysis

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Background: Despite the robust evidence regarding the association of internalized HIV stigma with psychological distress and the mediation role of resilience among people with HIV (PWH), less is known about the dyadic interdependence of this mechanism among PWH and their family members (FM) in a distinguishable dyadic relationship. The examination of the potential dyadic effect could contribute to a better understanding of the relationship between internalized stigma and psychological distress and shed light on potential effective interventions to mitigate the deleterious effect of internalized stigma.

This study aimed to explore the actor-partner effect and mediation role of resilience in the relationship between internalized stigma and psychological distress among PWH and their FM dyads.

Methods: Between October 2023 and December 2023, a total of 800 PWH-FM dyads were recruited from two urban cities and nine rural counties in Guangxi, China. All participants completed validated questionnaires capturing demographic characteristics, internalized stigma, resilience, and psychological distress.

This study employed the actor-partner interdependence mediation model (APIMeM) to examine both individual (actor) and dyadic (partner) pathways, along with resilience as a potential mediator.

Results: Analysis revealed that internalized stigma had significant actor effects on psychological distress for both PWH (b = 0.180, p<0.001) and their FM (b = 0.456, p<0.01). Resilience partially mediated the relationship between internalized stigma and psychological distress in PWH (b = 0.029, p<0.001) but not in their FM (b = -0.003, p=0.684). Additionally, significant indirect partner effects were observed in the association between family members' internalized stigma and PWH's psychological distress through PWH's resilience (b = 0.030, p<0.01).

Conclusions: This study underscores the complex interplay between internalized stigma, resilience, and psychological distress in PWH-FM dyads. The mediating role of resilience and the observed partner effects suggest that interventions targeting stigma reduction among FM could have far-reaching benefits for PWH.

Health professionals could adopt family-centered strategies that simultaneously focus on enhancing resilience and reducing stigma to effectively mitigate psychological distress and improve the overall well-being of both PWH and their FM.

EP0776

Enhancing ART re-engagement among clients late for pharmacy pickups through mental health interventions in four Zambian provinces from October 2023 to September 2024

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Background: Engagement in HIV care and adhering to antiretroviral therapy (ART) is vital for effective HIV management, but treatment interruptions are common. These interruptions, especially among clients who have been late for pharmacy appointments for ≥ 28 days, are often driven by psychosocial challenges, stigma, transport barriers, and inadequate support. In the study period, the Centre for Infectious Disease Research in Zambia implemented the Common Elements Treatment Approach (CETA), which integrates mental health and ART adherence strategies to enhance client retention and health outcomes. CETA is a transdiagnostic cognitive behavioral therapy which manages depression, anxiety, alcohol/substance use and trauma.

Methods: This survey analyzed ART re-engagement outcomes from October 2023 to September 2024 in Lusaka, Southern, Eastern, and Western Provinces. Eligible clients were those who experienced a late pharmacy pick-up in the last 28 days and were screened for CETA using the client monitoring form (CMF), which includes validated tools to measure depression (PHQ-9), anxiety (GAD-7), and alcohol use disorder (AUDIT). Weekly CETA sessions were provided over 6–8 weeks, incorporating individual counseling and psychosocial support.

Data from the District Health Information Systems 2 (DHIS2) and SmartCare (SC) electronic health record systems were abstracted and analyzed to assess ART re-engagement, defined as active in care with consistent pharmacy visits 90 days post-intervention.

Results: The analysis revealed that 91% of clients classified as "late pharmacy pickups" successfully resumed ART after participating in CETA interventions.

Late pharmacy clients removed from Tx_Curr (Oct 2023 to Sep 2024)	Still active on ART 90 days post CETA	%active on ART after CETA	Not active	Lost to follow-up (LTFU)	Transferred out	Died	Not in Smart Care
830	758	91%	20	12	7	3	30

Table 1. Outcomes of the CETA Intervention on Late Pharmacy Pickups in Western, Eastern, Lusaka, and Southern Provinces, Zambia (October 2023–September 2024)

Abbreviations: CETA – Common Elements Treatment approach, ART – Antiretroviral therapy

Conclusions: Integration of mental health services with ART adherence strategies has the potential to improve client retention by addressing the psychosocial challenges associated with treatment.

While systemic barriers such as data inconsistencies and resource limitations may limit the impact of CETA, further exploration of these factors is warranted.

Strengthening human resources for mental health support could play a crucial role in providing comprehensive care for all recipients.

EP0777

Depression and anxiety; addressing mental health issues among individuals with HIV and HCV

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Background: Health problems, especially depression and anxiety, are common in people living with HIV and HCV. Depression and anxiety can decrease treatment adherence, quality of life and ultimately health outcomes among HIV and HCV infected patients.

The aim of this study was to investigate the hybridity between mental health and viral infection, the effect of mental health on disease course and treatment compliance while suggesting applicable strategies for mental health care during these crises.

Methods: A facility-based cross-sectional survey was conducted in Kisumu, Nairobi, Kakamega and Nakuru Counties in Kenya from August to November 2023. Purposive sampling was employed to recruit 450 clients (150 each). 30 interviews and 25 FGDs were conducted to collect qualitative data which was analyzed thematically.

Structured surveys with mental assessment tools (PCL-5 for PTSD, PHQ-9 for depression and GAD-7 for anxiety were used to collect quantitative data which was analyzed using MS excel.

Results: Clients with major depression symptoms were 60%, while 45% dealt with medium to bad anxiety. Clients with mental health care inclusive of therapy, psychiatrists' help and social services stuck to their HIV/HCV treatments better and felt healthier overall and 32% without mental health help felt more stressed, judged and neglected. Talks with clients showed 84% had trouble getting mental health care while facing judgment from their culture.

Conclusions: It is key to treat mental health as part of full-body care. Care models that mix medical treatment with mental health help work well to make both mental health and virus levels suppressed. There is need for more awareness, learning and resource consolidation to deal with mental health in HIV and HCV care places with prospective Health policies and practices aiming to give these groups easy-to-access full mental health care and cut down on stigma Cultural integration is therefore critical to ensure which ways work best and ensure usability in different cultures and places with different resources.

EP0778

Higher prevalence of depression and anxiety among postpartum women with HIV than women without HIV during 3-year follow-up

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Background: There are few longitudinal studies examining socio-economic and demographic risk profiles of psychological disorders in postpartum mothers with HIV (MLHIV) and without HIV.

Methods: We enrolled Kenyan MLHIV or without HIV and their infants at 6-week postnatal visits. Depression (Patient Health Questionnaire-9 [PHQ-9] score ≥5) and anxiety (Kessler Psychological Distress Scale [K-10] score ≥16) were collected every 6 months for 3 years. Distress was defined as PHQ-9 score ≥5 or K-10 score ≥16. We used linear mixed effects models to identify predictors of psychological disorders, clustered by individual and site.

Results: Among 2,000 mothers (1000 MLHIV, 1000 without), median age was 29 years (IQR 25-33). Most MLHIV (98.7%) received ART during pregnancy; 77% with a DTG-regimen. MLHIV were older, less likely to be partnered, and experienced more food insecurity (p<0.001 for each).

At 6-weeks postpartum, psychological disorders were more prevalent among MLHIV (depression: 22.1% vs. 18.5%, p=0.046; anxiety: 24.6% vs. 15.8%, p<0.001; distress: 31.6% vs. 24.4%, p<0.001). Prevalence of depression and distress decreased during 3-year follow-up among all mothers (depression: 20.3% baseline vs. 10.9% at 3-years, distress: 28.0% vs. 22.8%, respectively, p<0.001); in both subgroups by HIV status for depression and among MLHIV for distress.

In longitudinal models, MLHIV had higher risks of all outcomes (depression: prevalence ratio [PR] 1.30 [95% confidence interval 1.17-1.45], p<0.001; anxiety: PR 1.15 [1.02-1.30], p=0.025; distress: PR 1.22 [1.11-1.33], p<0.001). Adjusted for maternal HIV, distress was lower among mothers who were younger (PR 0.87 [0.78-0.98], p=0.022), partnered (PR 0.72 [0.63-0.83], p<0.001) and with secondary education (PR 0.81 [0.73-0.89], p<0.001). Higher risk was associated with prenatal hospitalization (PR 1.27 [1.03-1.57], p=0.025) and food insecurity (PR 1.54 [1.37-1.72], p<0.001). Results were similar for depression and anxiety.

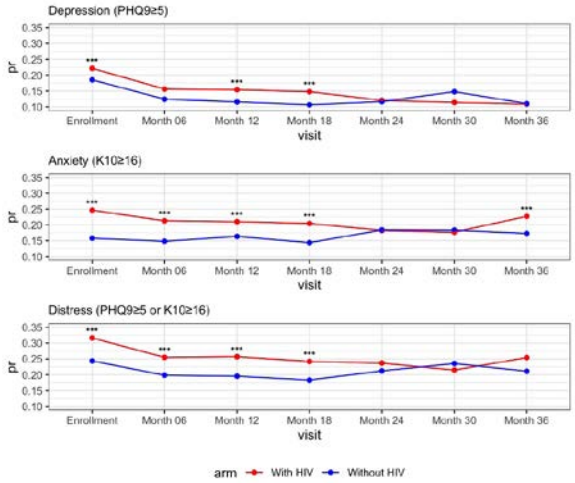


Figure 1. Proportions of psychosocial disorders over time by HIV status.

Conclusions: Our findings highlight needs for integrated mental health care in maternal-child healthcare, particularly among MLHIV and those at heightened risk for psychological disorders.

EP0779

Depressive disorder, HIV testing, and high-risk behaviors among transgender persons in a US national study

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Background: HIV disproportionally impacts the transgender population in the US. Depressive disorders are often associated with risk factors for HIV acquisition and health-seeking behaviors including HIV testing.
We investigated the associations between depressive disorders and HIV testing as well as high-risk behaviors among transgender adults in the US.
Methods: We analyzed data from the 2022 Behavioral Risk Factor Surveillance System. This study included respondents who self-identified as transgender male-to-female, female-to-male, or gender nonconforming.
We examined the association between ever having a depressive disorder and
1. High-risk behaviors including any drug injection other than those prescribed for you, STD treatment, or having given/received money or drugs in exchange for sex in the past year;
2. Ever tested for HIV, and;
3. Tested for HIV in the past year.
We compared weighted percentages using Rao-Scott Chi-Squared tests and conducted weighted logistic regression, adjusting for sociodemographic characteristics. All analyses accounted for complex survey design.
Results: Among 259,709 participants, 1603 (0.8%) self-reported as transgender; of them, 53.8% ever had a depressive disorder, 18.4% reported high-risk behaviors in the past year, and 41.9% ever tested for HIV. Of those who ever tested for HIV, 12.9% tested in the last year. Age, sex at birth, race/ethnicity, education, general health, and region significantly differed by depression status and were controlled in the models.
After covariate adjustment, transgender persons with a depressive disorder had higher odds of having high-risk behaviors (adjusted odds ratio [AOR]: 2.16, 95%CI: 1.23, 3.79) and ever having been tested for HIV (AOR: 1.69, 95%CI: 1.09, 2.63) than those without.
However, among transgender persons who had ever been tested for HIV, no difference was found in past-year HIV testing between those with and without a depressive disorder (AOR: 1.03, 95%CI: 0.45, 2.38).
Conclusions: In this US transgender population, depressive disorders are prevalent and lifetime HIV testing is low. We found a significant relationship between depressive disorders and high-risk behaviors, highlighting that mental health wellness should be incorporated into HIV prevention.
Our findings also suggest that improving timely HIV testing and tailored risk-reduction interventions are needed particularly for transgender persons with depression or having risky behaviors.

EP0780

The effects of nutrition and food accessibility on depression among adolescent and young people 10-24 years living with HIV in Rwanda 2024

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Background: Even with the existence of well-developed HIV care programs, there is still limited integration with nutritional and mental health support services. The study aimed to assess nutritional, food availability, accessibility and diversity factors associated with depression among Adolescent and Young People 10-24 years Living with HIV (AYPLHIV) in Rwanda.
Methods: In a cross-sectional study, 457 randomly chosen AYPLHIV who lived in Kigali and four secondary cities in Rwanda were assessed using the Patient Health Questionnaire-9 (PHQ-9) for depression. Data analysis and the scores used to classify people with depression were generated using STATA 16. The adjusted odds ratios (AOR) from bivariate and multivariable logistic regression analysis were used to measure the association, and a p-value<0.005 indicated statistical significance.
Results: The prevalence of depression was 26.5%. BMI as a proxy for nutrition status (underweight, p=0.603 and overweight/obese, p=0.636) was not associated with depression and there was no evidence that lack of food availability or diversity was associated with depression but if you often ate a smaller meal than you felt you

needed, you were 5.6 (95%CI:2.730-11.380) times as likely to be depressed than one who had access to enough food. Other factors significantly associated with depression were experience of being bullied for having HIV (OR=2.013, 95%CI:1.138-3.559), experiencing a family or household death(s) (OR=2.490, 95%CI:1.463-4.240), physical abuse, or witnessing physical violence in the home (OR=2.853, 95%CI:1.305-6.237), experience of forced sex (OR=2.072, 95%CI:1.053-4.075).

Depression was approximately 4-5 times higher among AYPLHIV where the mode of HIV transmission was sexual as compared to those where the mode of transmission was vertical. The odds of being depressed increased with the length as AYPLHIV stayed on ART treatment (p-value=0.007).

Depression was highest among AYPLHIVs who learnt about their HIV status when they heard others talking about it and lowest among AYPLHIV who were informed by their parents (OR=0.213, 95%CI:0.054-0.837).

Conclusions: The findings of this study highlighted the complex interplay of sociodemographic and psychosocial factors in influencing the mental health outcomes of AYPLHIV in Rwanda. The high prevalence of depression underscores the need for targeted interventions to address the mental health needs of this vulnerable population.

EP0781

Feasibility and preliminary impact of lay counselor delivered depression counseling for adolescents living with HIV in Malawi

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Background: Depression amongst the 1.4 million adolescents living with HIV (ALWH) in sub-Saharan Africa is prevalent and a significant barrier to HIV care engagement. In Malawi, where more than 75,000 ALWH live, estimates of depression among ALWH range from 18%–26%, and there are few resources for mental health care. Resource-appropriate interventions that improve depression and incorporate ALWH preferences for service delivery are urgently needed to improve both mental health and HIV care outcomes for this population.

Methods: Preliminary data are from a pilot 3-arm randomized controlled trial (HEADS-UP) evaluating the feasibility and impact of an evidence-based counseling intervention (Friendship Bench) on improving depression amongst ALWH (N=105) at four public health centers in Lilongwe, Malawi. Eligible ALWH (age 13-19, Beck Depression Inventory II ≥ 13) randomized to the intervention arms (n = 70) were offered six counseling sessions, where youth-friendly lay-counselors provided problem-solving therapy every 7-10 days. Depressive symptoms were monitored with the Patient Health Questionnaire-9 (PHQ-9) during counseling sessions.

Results: The median age of participants randomized to the intervention arms (N =70) was 16.3 (IQR 15.0-17.3) and more than half were female (60%). Most participants (n=67, 96%) completed all six counseling sessions with a mean duration of 6.4 weeks. Amongst participants completing all six sessions, the proportion screening positive for depressive symptoms (PHQ-9 ≥ 5) decreased from session 1 (79%, n = 53) to session 6 (25%, n = 17) by 68%. Similarly, mean PHQ-9 scores decreased from session 1 (mean: 9.1, standard deviation: 4.1) to session 6 (mean: 4.0, standard deviation: 4.1) by 63%.

The proportion of ALWH experiencing moderately severe and severe depressive symptoms (PHQ-9 > 14) also decreased from session 1 (15%, n = 10) to session 6 (1%, n=1) by 90%.

Conclusions: These preliminary results demonstrate the feasibility of engaging and retaining adolescents living with HIV and experiencing depression in a six-week counseling intervention in this setting.

The results also suggest that fewer ALWH experienced depressive symptoms, particularly moderately severe to severe symptoms, after completing all six counseling sessions, pointing to the potential of lay-counselor delivered interventions for improving mental health outcomes for this population.

EP0782

"It is the foundation for the child": caregiver perspectives on the Nurturing Care Framework in Kenya and Botswana

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Background: The WHO/UNICEF Nurturing Care Framework (NCF) features five domains necessary for healthy child development – physical and mental health, responsive caregiving, adequate nutrition, security and safety, and opportunities for early learning. We explored caregiver perspectives on the NCF and unique challenges faced by families affected by HIV.

Methods: Between Nov 2023 – Jul 2024, 14 FGDs were conducted with caregivers living with and without HIV; eight with mothers in Gaborone, Botswana, and six in Nairobi, Kenya (three with mothers and three with fathers). FGDs were stratified by country, sex, HIV status, and partnership status. Semi-structured interviews with interactive activities elicited perspectives on the NCF , including the "most important", "easiest", and "most challenging" domains to fulfill.

Results: Botswanan and Kenyan caregivers identified physical and mental health as the "most important" domain ("*If you have pain, that pain affects your child*").
The "most challenging" domains were adequate nutrition in Botswana, due to stigma around infant feeding choice (breast vs. formula) and widespread formula shortages. Ensuring security and safety was challenging in Kenya, because caregivers often left children in others' care during the workday.
The "easiest" domains were responsive caregiving in Botswana and opportunities for early learning in Kenya. Kenyan caregivers noted that *spiritual nourishment* was also critical for wellbeing but was missing from the NCF.
Caregivers living with HIV experienced isolation, stigma, and treatment disruption, impacting their ability to provide nurturing care; they highlighted the importance of self-acceptance, disclosure, mental health counseling, and treatment adherence.

Figure 1a. NCF activity for mothers only, by country

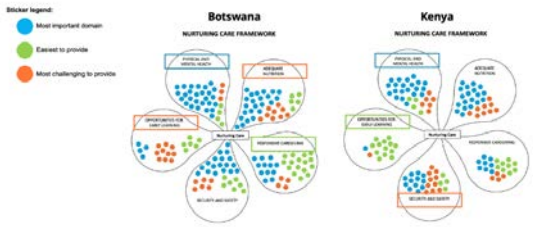
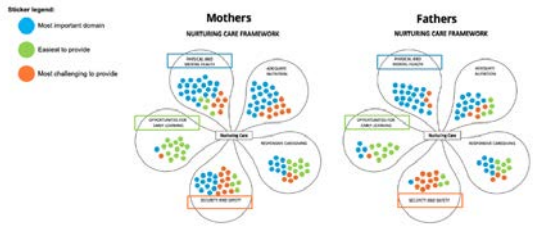


Figure 1b. NCF activity for Kenyan caregivers only, by caregiver sex



Note: Each participant was given 2 blue stickers, 1 green sticker, and 1 orange sticker to place on an individual card, to not be influenced by others' responses.

Conclusions: Caregivers faced uniqautoue challenges depending on their environments, cultural norms, and HIV status. HIV disrupts caregivers' physical and mental health, which has important implications for raising children within families affected by HIV.
Interventions that support caregivers' abilities to fulfill all NCF domains and address common challenges will be essential to ensure children reach their developmental potential.

EP0783

New awareness of a sexually transmitted infection and depressive symptom burden among women with HIV in the United States

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Background: Women with HIV (WWH) experience depressive symptoms at four times the rate of women without HIV. Co-infection with a sexually transmitted infection (STI) is common among WWH. For WWH, a new STI may worsen depressive symptoms via retraumatization (process that reshapes a reaction to trauma based on previous trauma).
We examined whether new awareness of an STI is associated with depressive symptoms among WWH in different racial/ethnic groups in the United States (US).
Methods: The Women's Interagency HIV Study (WIHS) is the longest standing cohort of WWH in the US. Participants attend semiannual visits for clinical examinations and health-related and psychosocial data collection. We used data from 2013-2019 on STIs (self-report or study clinicians' clinical impressions: chlamydia, gonorrhea, syphilis, herpes simplex 2, genital warts, or trichomoniasis) and depressive symptoms [CES-D 20 scores (range 0 – 60)].
We used a generalized linear model with generalized estimating equations to estimate the longitudinal association of new awareness of an STI (binary) with depressive symptoms (continuous) within five race/ethnicity strata. Inverse probability of treatment and censoring weights controlled confounding (by psychosocial and demographic factors) and loss to follow up. Standard errors for 95% confidence intervals were estimated from 200 bootstraps.

Results: Overall, 1,763 WWH contributed 14,368 visits to this analysis. Mean age was 47.1(std: 9.1) at first visit and 72.4% of participants were Black/Non-Hispanic. Across all visits, 8.5% person-visits experienced new awareness of an STI. Weighted results are below.

Stratum	Mean Difference	95% Confidence Interval
White, Non-Hispanic	-0.99	(-3.47, 1.49)
White, Hispanic	-2.80	(-5.02, -0.57)
Black, Non-Hispanic	1.56	(0.63, 2.49)
Black, Hispanic	-4.39	(-9.22, 0.43)
Other	-1.08	(-3.10, 0.95)

Table. Mean difference in CES-D Scores in WWH with new awareness of an STI vs WWH without.

Conclusions: At visits with new awareness of an STI, Black non-Hispanic WWH, but not other racial groups of WWH, had increased depressive symptoms compared to visits without. Interestingly, this relationship is reversed in all other race/ethnicity strata and warrants future investigation to understand this complex phenomenon among WWH with new awareness of an STI.

Our analyses suggest that providing increased mental health support at the time of a new STI may reduce depressive symptom burden in some populations, such as Black Non-Hispanic WWH.

EP0784

Empowering adolescents with perinatally acquired HIV: exploring Self-Efficacy for Exercise (SEE) and its impact on physical activity engagement

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Background: Adolescents with perinatally acquired HIV (APHIV) face unique challenges in maintaining physical health, including barriers to regular exercise. Lifelong exposure to HIV and antiretroviral therapy (ART) contributes to metabolic disorders and chronic inflammation, potentially limiting physical capacity.

Furthermore, stigma-related psychosocial barriers can discourage participation in group exercise programs.

We aimed to assess exercise self-efficacy—the confidence in one's ability to sustain physical activity in various circumstances—to identify factors that influence the sustainability and effectiveness of exercise-based interventions.

Description: The Positive Running Program in southern India offers a structured physical activity regimen integrating running, strength training, health education, exercise physiology, and leadership development. Grounded in the Social Cognitive Theory, which emphasizes the role of self-efficacy in behavior change, we measured exercise self-efficacy in APHIV who received the intervention for at least one year. Following informed consent, participants completed the Self-Efficacy for Exercise (SEE) Scale, measuring confidence in scenarios such as exercising while fatigued, stressed, or unmotivated.

Participants also completed the Child and Youth Resilience Measurement (CYRM). Data were analyzed using descriptive statistics and logistic regression.

Lessons learned: Among 150 APHIV participants, mean age was 16.9 years (SD 3.9); 33.7% were females (n=50). Mean SEE score was 13.1 (SD 6.1; range 2-25); 27.5% had "low" overall confidence (SEE score 0-9) for physical activity under various circumstances.

Higher SEE scores were significantly associated with older age (p=0.03), greater engagement in physical activity (p=0.010), higher adherence to the intervention (p=0.003), and higher resilience scores (p=0.042). Internal factors such as emotional states (feeling stressed or sad) emerged as greater barriers to exercise than external environmental factors (weather or competing activities).

Conclusions/Next steps: This study underscores the critical role of self-efficacy in sustaining exercise adherence among APHIV, especially under challenging conditions. The Positive Running Program demonstrates the transformative impact of structured exercise to enhance self-efficacy through strategies like progressive mastery of physical activities, positive reinforcement, and targeted support to overcome emotional challenges and environmental stressors.

By integrating physical activity into a holistic health promotion framework, such interventions can improve resilience, well-being, and quality of life in APHIV, with potential to enhance long-term health outcomes.

EP0785

Symptoms of depression, anxiety, and post-traumatic stress among adolescents and young adults living with HIV at enrollment in the Sauti ya Vijana randomized clinical trial in Tanzania

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Background: Adolescents and young adults (AYA) are facing a growing mental health (MH) crisis. This is particularly true for AYA with HIV (AYAWH) who in this critical period of self-realization and physical, social, and brain maturation, they also navigate HIV related stigma and disclosure. As a result, adherence to antiretroviral therapy may decrease resulting in unsuppressed HIV and risk of transmitting to others.

We describe symptoms of depression, anxiety, and post-traumatic stress among AYAWH enrolled in a mental health Sauti ya Vijana (SYV, The Voice of Youth) trial.

Methods: SYV is a randomized clinical trial conducted across four regions of Tanzania (Moshi, Ifakara, Mbeya and Mwanza), enrolling participants aged 10-24 years, on ART for at least six months, aware of their HIV diagnosis, and able to attend weekly intervention sessions if randomized to intervention arm.

Study enrolment period was from March 2023 to July 2024. Youth with active psychosis or cognitive disability precluding their ability to consent, or participate actively in group were excluded. Interviewer-led MH assessments included: PHQ-9 for depression (range 0-27, symptomatic ≥ 5); GAD-7 for anxiety (range 0-21, symptomatic ≥ 5); and UCLA-RI for post-traumatic stress (modified range 0-51, symptomatic ≥ 18). Data were collected using REDCap Mobile and analysed descriptively using R software.

Results: We enrolled 690 participants across sites. The mean age was 17.5 years (SD 2.5 years); 50% were females. At enrolment, 23% of participants reported symptoms of depression, 10% reported symptoms of anxiety, and 16% reported symptoms of post-traumatic stress (Table). Furthermore, 6% reported to have intentionally harmed themselves in the past, and 2% reported current intent to self-harm. Appropriate MH referral and care was provided.

Variable	Ifakara (N = 168)	Mbeya (N = 178)	Moshi (N = 168)	Mwanza (N = 176)	Total (N = 690)
Age, mean (SD) years	17.1 (3.4)	18.0 (2.1)	17.5 (2.0)	17.3 (2.2)	17.5 (2.5)
Gender (Female)	88 (52%)	89 (50%)	83 (49%)	87 (49%)	347 (50%)
PHQ 9 ≥10	5 (3%)	4 (2%)	4 (2%)	9 (5%)	22 (3%)
PHQ 9 ≥5	54 (32%)	20 (11%)	33 (20%)	54 (31%)	161 (23%)
GAD 7 ≥10	5 (3%)	0 (0%)	4 (2%)	2 (1%)	11 (2%)
GAD 7 ≥5	23 (14%)	6 (3%)	23 (14%)	19 (11%)	71 (10%)
UCLA trauma ≥18	6 (24%)	2 (4%)	11 (46%)	7 (11%)	26 (16%)

Conclusions: Symptoms of depression, anxiety, and post-traumatic stress were common at enrolment into SYV trial, suggesting the need for routine MH screening for AYAWH. The trial is ongoing, and will be unblinded to evaluate overtime changes by trial arm.

EP0786

A mixed methods evaluation of a stepped care model integrating HIV and mental health services for adolescents and young adults living with HIV (AYLHIV) in Western Kenya

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Background: Adolescents and young adults living with HIV (AYLHIV) are at increased risk of poor retention and adherence. Stepped care models tailor HIV services to AYLHIV needs, including use of differentiated service delivery for stable AYLHIV.

Methods: The *Data-Informed Stepped Care* (DiSC) study, a cluster randomized clinical trial conducted in 24 facilities across three counties in Western Kenya, tested implementation of a Stepped Care intervention that matched youth needs to service intensity. Using a convergent parallel mixed methods design, we conducted post-trial surveys and focus group discussions (FGDs) with AYLHIV from intervention sites. FGDs were conducted among participants from six intervention sites, and were recorded, transcribed, and analyzed using a thematic analysis approach. Satisfaction surveys were conducted among all participants at study exit (12 months) and analyzed using descriptive statistics.

Results: A total of 73 AYLHIV participated in 18 FGDs; 39 (53%) were aged 15-19; 66 AYLHIV completed the demographics survey, and 60.6% were female. Among 790 AYLHIV who completed the satisfaction survey, median

age was 18 (IQR: 15-20) and 59.6% were female. FGD participants reported positive experiences during DiSC, describing more comprehensive and supportive discussions with providers and faster appointments due to tailored services. Correspondingly, the majority of quantitative survey respondents reported short wait times (83%), trust in their providers (91%), and believed providers listened to their concerns (93%). FGD participants reported being more likely to attend clinic appointments and adhere to ART during DiSC.

Participants receiving higher intensity services reported benefits from mental health counseling and improved caregiver relationships. Some FGD participants felt depressive symptoms significantly decreased. Among 57 participants who reported receiving counseling services, 98% were satisfied with the counseling, 95% felt they could express themselves without restrictions, and 100% reported at least some benefits and that they would like to receive additional counseling.

Some FGD participants reported challenges during the study, including minor schedule disruptions, lack of transportation, and disclosure fears, although DiSC was not designed to primarily address these determinants.

Conclusions: This mixed methods evaluation demonstrated that the stepped care intervention effectively matched services to AYLHIV needs, and the majority found the intervention highly acceptable.

EP0787

Exploring pet ownership as a novel intervention for mental health in people living with HIV (PLHIV): a global review of prevalence and benefits

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Background: People living with HIV (PLHIV) frequently experience mental health challenges such as depression, anxiety, and social isolation. Pet ownership has been associated with psychological benefits in other populations, but its impact on PLHIV is understudied. Addressing these mental health challenges is crucial for enhancing their health outcomes and ensuring their retention in care.

This systematic review and meta-analysis evaluated the prevalence of pet ownership among PLHIV and explored its association with mental health outcomes, including depression, emotional well-being, and social interactions.

Methods: A comprehensive search of databases (MEDLINE/PubMed, Web of Science, Scopus) and grey literature identified studies on pet ownership and mental health outcomes in PLHIV. Inclusion criteria focused on observational or interventional studies measuring standardized mental health outcomes.

Three studies met the eligibility criteria, involving a total of 1,035 participants. The risk of bias was assessed using the Newcastle-Ottawa Scale and Cochrane Risk of Bias Tool 2.0. Data were synthesized narratively, and a random-effects meta-analysis was performed to estimate the pooled prevalence of pet ownership.

Results: The pooled prevalence of pet ownership among PLHIV was 61% (95% CI: 52–66%, I^2 = 85.4%). Individual studies reported high ownership rates: 68.3% in Muldoon et al. (2017), 60.2% in Hutton et al. (2014), and 54% in Siegel et al. (1999). Pet ownership, particularly dog ownership, was consistently associated with improved mental health outcomes. In Muldoon et al., dog owners had significantly lower odds of depression compared to non-owners (OR = 3.01, CI 1.54–6.21). Hutton et al. found greater emotional well-being and reduced unsupportive social interactions in companion animal owners. Siegel et al. reported that pet ownership reduced depression, especially among individuals with AIDS and limited social support.

Despite these benefits, the limited number of studies highlights a gap in understanding the long-term impacts of pet ownership on PLHIV.

Conclusions: Pet ownership is prevalent among PLHIV and appears to provide significant mental health benefits, including reduced depression and improved emotional well-being.

However, the limited evidence base underscores the need for longitudinal and interventional research. Promoting pet ownership or animal-assisted interventions may serve as a novel strategy to enhance the psychological well-being of PLHIV

EP0788

Integrating mental health and psychosocial support into community-based HIV and GBV programming: a holistic approach to adversities healing towards improved health outcomes

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Background: HIV and GBV amplify community mental health and psychosocial challenges, accelerating vulnerability for affected individuals, families, and communities as manifested through self/community stigma, and emotional distress. Fear of rejection and social isolation increases mental health issues, particularly among children and adolescents living with HIV (C/ALHIV) and those having experienced violence. Integrating mental health into HIV and GBV programming offers a holistic approach that enhances service delivery, fosters resilience, reduces stigma, and promotes self-esteem and psychosocial well-being.

Description: USAID Igire Gimbuka, a community-driven program that supports orphans and vulnerable children by addressing HIV prevention and GBV mitigation while focusing on mental, emotional, and social needs, implemented by Caritas Rwanda in four districts of Western Province. To enhance community-centered mental health efforts, RBC, in collaboration with various stakeholders,

developed and endorsed a community-based MHPSS toolkit, employing a multi-stakeholder approach that engages health professionals, local leaders, volunteers, and community members. Key strategies include, training of 78 mental health service providers, offering clinical supervision for 234 clinicians to prevent burnout, facilitating peer-to-peer support for 975 C/ALHIV, and providing psychosocial peer support to 493 GBV survivors.

Program promotes self-reliance through social and economic services and organizes community dialogues to reduce stigma and raise awareness around psychosocial challenges. Furthermore, the program strengthens referral networks to connect clients with specialized mental health professionals.

Lessons learned: Engaging and empowering community volunteers, coupled with fostering effective collaboration with health professionals, have proven essential to helping people regulating and recovering from HIV/GBV related adversities, significantly improved adherence to treatment and retention in care, resulting 99.2% of viral load suppression among participants living with HIV and reduced stigma.

Peer-to-peer mental health support has become a valuable intervention, where individuals who experienced mental health challenges or GBV share their feelings, empathy, and encouragements, thus breaking their loneliness and isolation.

Conclusions/Next steps: Strengthen peer-to-peer counseling for early mental health detection and referrals, foster resilience, and shared support; Foster community involvement through stigma-reducing awareness campaigns that inspire active participation in mental health initiatives; Implement multilevel interventions to address HIV prevention barriers, prioritizing at-risk individuals with mental health challenges, including those confined to households or frequently in public spaces.

EP0789

Scaling success: peer support models achieve outstanding ART adherence and viral suppression for young people living with HIV

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Background: Adherence to antiretroviral therapy (ART) is essential for viral suppression and positive health outcomes among young people living with HIV (YPLHIV). However, adherence is often hindered by stigma, lack of support, and mental health challenges.

The YouthWise (YW) project (2021-2024), funded by Aidsfonds and implemented in Kenya and Malawi, aimed to mitigate these barriers through a peer-led, youth-driven support model.

Description: The YW project used a combination of inputs and approaches to foster ART adherence:

- Youth-Driven Peer Support Groups: 5 support groups were established in Kenya and Malawi, these groups created safe spaces for YPLHIV to support one another's adherence journeys.
- Self-Care Toolkit: Adapted from WHO guidelines, this youth-friendly toolkit empowered peer mentors to educate group members on HIV self-care and adherence strategies.
- Local Partnerships: Leveraging existing networks, support groups in Malawi, and working with health providers and community leaders strengthened group outreach and acceptance.
- Capacity Building: Peer mentors were trained, enabling them to lead impactful sessions and effectively relay information.

Lessons learned: A mixed-methods approach was used, with quantitative data from surveys and qualitative insights from safe circles and focus groups conducted in Nairobi, Mombasa, Chikwawa, and Mangochi. Ninety-three participants (ages 19-34) provided data on ART adherence, self-care practices, and community support, with a focus on adherence rates, viral load suppression, and peer support's role in adherence.

The results were

- Adherence: 97% of participants had reliable ART access, 94% were on ART, and 82% reported consistent adherence.
- Viral Load Suppression: 89% reported an undetectable viral load.
- Well-Being and Support from peers: 75% felt "very happy" or "happy," and 88% felt "healthy" or "very healthy," with 95% rating peer support as "supportive" or "totally supportive."

Conclusions/Next steps: The YW project's peer-led model significantly enhanced ART adherence and well-being for YPLHIV, demonstrating the power of stigma-free, youth-centered approaches. By empowering peer mentors and fostering community partnerships, the intervention created a replicable framework for improving HIV care outcomes. This model has since been adopted by other initiatives, such as the You(th) Care project in Zambia, Kenya, and Tanzania, showcasing its potential for scalability and broader impact on YPLHIV communities globally.

EP0790

Prevalence of suicidal ideation among newly diagnosed PLHIV in Nairobi County: insights from the HOYMAS Kenya Program

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Background: Despite advancements transforming HIV into a manageable condition, mental health comorbidities, particularly suicidal ideation, remain a critical concern among people living with HIV (PLHIV). The vulnerable period immediately following HIV diagnosis is marked by emotional and social challenges.

Suicidal ideation among newly diagnosed clients represents a significant individual burden, impacting daily activities and causing immense suffering, and has broader public health implications, negatively affecting treatment adherence and contributing to preventable mortality.

Pre-existing mental health conditions, lack of social support, discrimination, and socioeconomic disparities may exacerbate this risk. Understanding the prevalence and associated risk factors of suicidal ideation among newly diagnosed HIV client is crucial for developing effective prevention and intervention strategies.

Description: HOYMAS Kenya implements a HIV Care and treatment program for Men who have sex with Men and Male Sex Workers in Nairobi County executed a project to understand the prevalence and the risk factors for suicidal ideation among PLHIV post diagnosis.

Lessons learned: Programmatic data collected at HOYMAS between January 2024 and December 2024, indicates that a total of 70 clients tested positive for HIV and offered linkage onsite.

A total of 67 (95.7%) were linked to care on the same day and 3 were linked within 30 days of testing.

All of them were offered three sessions of enhanced adherence counselling and screened for depression and anxiety using the standard PHQ-9 and GAD-7 with 49 (70%) showing a degree of anxiety and 52 (74.2% having depression within the first three month of linkage

19 (27.1%) aged <29 years displayed and openly discussed their suicidal thoughts with no disclosure

4 clients out of 19 had interruption in treatment in navigated back to treatment.

Conclusions/Next steps:

- The diagnosis of HIV is a experience that implicates anxiety, depression and trauma
- Disclosure support
- Integration of a comprehensive mental health package for PLHIV and support services.
- Strengthening case navigators in post diagnosis care and community followup
- Advocate for full implementation of the kenya mental framework for the key and Vulnerable population.
- Capacity building for HCPs to understand and better handle clients experiencing depression, PTSD and suicidal thoughts.

EP0791

Depression and HIV-related self-efficacy among people with TB/HIV initiating TB treatment who were recently diagnosed with HIV versus those who already knew their HIV status

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Background: Depression is a common comorbidity in people with HIV/TB coinfection, influencing treatment adherence and outcomes. Knowing that many people in South Africa do not learn of their HIV diagnosis until they get sick with TB, we sought to explore whether being simultaneously diagnosed with TB and HIV was associated with a greater risk for depression and whether it impacted their HIV treatment adherence self-efficacy to initiate HIV treatment.

Understanding the role of depression and its relationship with HIV-related self-efficacy, particularly in those recently diagnosed with HIV and TB same day, is critical for improving HIV treatment engagement in resource-limited settings.

Methods: A cross-sectional study utilized data from 295 individuals within their first month of initiating TB treatment who were coinfected with HIV. Depression was assessed using the Patient Health Questionnaire (PHQ-9), and HIV-related self-efficacy was measured using the HIV Treatment Adherence Self-Efficacy Scale (HIV-ASES).

Using bivariate analyses and linear regression, we explored differences in depressive symptoms and HIV treatment-related self-efficacy among those recently co-diagnosed with TB and HIV compared to individuals who already knew their HIV status at the time of being diagnosed with TB. Statistical significance was set at $p<0.05$.

Results: Among the participants (mean age 39.1, 51.5% female), 36.9% had elevated depressive symptoms suggestive of a probable depression diagnosis. While there were no statistically significant differences in depressive symptoms based on demographic characteristics (age, gender, education) nor the timing of the HIV diagnosis, participants recently diagnosed with HIV exhibited significantly lower HIV-related self-efficacy compared to those previously aware of their diagnosis (estimate=-2.716, $p<0.001$). No significant associations were found between HIV-related self-efficacy and age, gender, or education level.

Conclusions: This study highlights the impact of recent HIV diagnosis on HIV-related self-efficacy, underscoring the need for targeted interventions to improve HIV treatment readiness among individuals who are simultaneously diagnosed with TB and HIV.

Addressing depressive symptoms and fostering positive treatment intentions may improve adherence and outcomes among TB/HIV coinfected populations.

EP0792

Development and piloting of a novel peer-led substance use intervention for young people living with HIV in Zimbabwe

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Background: Substance use presents significant risks for adolescents and young adults, particularly those living with HIV (AYALHIV). It exacerbates physical, psychological, and social challenges and negatively impacts treatment adherence. In low- and middle-income countries, systemic challenges and limited access to mental health services complicates these issues.
To address this, Zvandiri piloted a peer-led intervention aimed at helping AYALHIV reduce substance use while enhancing resilience and self-efficacy.
Description: Formative research conducted in June and November 2023 involved 12 participants which included trained and mentored peer counsellors, Community Adolescent Treatment Supporters (CATS) and recipients of care (RoCs), six of whom were former substance users and wanted to support their peers to stop.
Themes identified included stressors leading to substance use, the need for coping strategies, and the importance of peer support. This informed a 10-session group intervention based on cognitive behavioural therapy principles and the Transtheoretical Model.
The sessions were held from January to November 2024. The sessions covered substance use reasons, psychoeducation on common substances used, triggers, relational issues, and coping strategies. Participants included 21 CATS and RoCs aged 15–24 years, with 6 having ceased substance use and 15 desiring to stop.
The aim of the intervention was two-fold. The six trained individuals were provided support to maintain abstinence and develop the requisite counselling skills to support their peers.
Secondly, the trained individuals facilitated the sessions with their peers still using substances, providing them a safe space for sharing and growth.
Lessons learned: Among the 15 AYALHIV attending group sessions, six ceased substance use, five reduced alcohol intake, while four dropped out. Key insights revealed that individuals with lived experiences enhance intervention design. Peer-led interventions are relatable, effective, and essential for group support, contributing to abstinence or reduced use. The involvement of peer counsellors and RoCs was vital for the pilot's success in addressing substance use challenges.
Conclusions/Next steps: Engaging AYALHIV with lived experiences is critical for designing effective substance use interventions. Peer counsellors act as relatable role models, aiding RoCs in overcoming substance use challenges. Training paraprofessionals helps bridge the mental health service gap in LMICs, facilitating the development of impactful interventions.

EP0793

Exploring the role of digital health services in supporting mental health and well-being among ageing people living with HIV in Hong Kong: a qualitative study

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Background: Ageing people living with HIV (PLWHIV) in Hong Kong face compounded challenges of stigma, mental health issues, and logistical barriers in traditional healthcare systems. These challenges often lead to isolation, anxiety, and depression. The rise of digital health technologies offers a promising solution by addressing age-related concerns, enhancing mental health support, and improving overall well-being.
This study aimed to explore the perceptions, needs, and expectations of digital health services among ageing PLWHIV. It sought to identify barriers in traditional healthcare, examine the potential of digital platforms to address mental health needs, and propose tailored interventions that promote resilience and reduce stigma.
Methods: This qualitative study explored perceptions, needs, and expectations of digital health services among ageing PLWHIV in Hong Kong. Researchers conducted in-depth interviews with 10 participants recruited through the Hong Kong AIDS Foundation. Interviews focused on traditional healthcare experiences, digital platform potential, and mental health needs. Participants included diverse age groups, with a third aged over 60 years and varying levels of medical consultation experience. Thematic analysis, conducted using NVivo software, identified recurring patterns and themes related to mental health and digital health interventions.
Results: Participants highlighted significant mental health challenges, including stigma, isolation, and inadequate support from traditional healthcare. Digital platforms were viewed as promising tools to address these issues by offering anonymous peer support, access to professional counseling, and better communication with providers. Older participants stressed the need for user-friendly interfaces and privacy protections to navigate digital systems effectively.
Additionally, digital tools could promote resilience by providing accessible health information, real-time updates on medical advancements, and tailored resources to enhance well-being. These platforms were recognized as a potential means to empower ageing PLWHIV, reduce stigma, and improve mental health outcomes.
Conclusions: Digital health solutions tailored for ageing PLWHIV can address mental health challenges by reducing stigma, fostering peer support, and promoting resilience. Platforms should prioritize user-friendly design, data security, and practical effectiveness to ensure widespread adoption and impact. These interventions have the potential to significantly improve the quality of life for this population.

EP0794

Exploring mental health challenges among adolescent girls and young women enrolled in an HIV prevention intervention in selected districts of Zimbabwe

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Background: Despite Zimbabwe having reached epidermic control, literature had shown that nearly 28% adolescent girls and young women (AGYW) aged 15-24 years' experience mental challenges. Causes of mental challenges among youths include psychosocial, economic hardships, drug and substance use, and health burdens among them the effects of the HIV pandemic. Zimbabwe Health Interventions (ZHI) is implementing the Determined, Resilient, Empowered, AIDS free, Mentored and Safe (DREAMS) program which seeks to reduce HIV incidence among AGYW in 9 high HIV burden districts of Zimbabwe.

Mental health challenges among AGYW in HIV prevention interventions had not been explored. We assessed prevalence of mental health problems and response mechanisms among 10-19-year-old AGYW enrolled in the DREAMS program.

Methods: We conducted a descriptive cross-sectional study where routine program data for AGYW aged 10-19 years for October 2023 to September 2024 were extracted from the DREAMS online database DHIS2. Data were analysed using SPSS version 23 and Ms Excel generating frequencies, proportions, and measures of association between vulnerability to HIV and mental challenges. The assessment was approved by Medical Research Council of Zimbabwe (MRCZ/E/216).

Results: A total of 31,079 AGYW aged 10-19 years were assessed and of these 23% (7,148) reported having mental health challenges.

Nearly 40% (2,859/7,148) of those reported having mental challenges experienced sexual and physical violence, 8% misused alcohol and 2.1% (148/7,148) history of pregnancy.

About 41% of the AGYW who had mental challenges felt they had no one to confide with when worried or upset.

Over 86.7% (6,197/7,148) of AGYW who experienced mental health challenges accessed services like psychosocial support (PSS) through the DREAMS program.

Conclusions: AGYW in HIV prevention intervention experience mental health challenges and a majority were referred for and accessed services. Prevalence of mental health issues was high among 10-19 years AGYW who experienced sexual and physical violence as well as those who misused alcohol.

We recommend strengthening provision of mental health services combined with combination HIV prevention for AGYW in low resource settings.

EP0795

Identifying and addressing psychosocial needs of pregnant and breastfeeding women living with HIV referred for psychosocial services at health facilities supported by Baylor Foundation Malawi

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Background: People living with HIV often have unmet psychosocial needs impacting their ability to take daily antiretroviral therapy and leading to unsuppressed viral load. Pregnant and breastfeeding women living with HIV (PBFWH) often have additional unmet needs, yet achieving viral suppression is critical for their own health and to prevent HIV transmission to their infants.

In resource-limited settings, access to psychosocial counselors (PSC) is limited. Baylor Foundation-Malawi provides psychosocial counseling to people attending 96 health facilities in five districts in Malawi. We describe PBFWH receiving psychosocial support.

Methods: Phone-based and in-person PSC visits were provided to PBFWH referred by health workers or self-referred. Women newly diagnosed with HIV, with treatment interruptions, detectable viral loads, mental health concerns, or requesting counseling were referred either in person or via WhatsApp group from the facility phone using anonymous client information. The 18 PSCs at high volume facilities attended to referred women from all facilities.

Client needs were categorized as **ART-related** (e.g. adherence, side effects), **psychological** (e.g. depression, abuse, anxiety), or **social support** (e.g. relationship challenges, housing, food insecurity, transport). Routine program data was analysed.

Results: From February 2023 to February 2024, 3,906 PSC counseling sessions with PBFWH were completed, representing 14% of all PSC sessions (3,906/29,440). Most sessions (n=3,108, 80%) were conducted remotely by phone, and 39% (n=1,527) were with adolescent girls and young women, 10–24 years.

Referral reasons included new HIV diagnosis (37%), treatment interruption (29%), high viral load (18%), gender-based violence (8%), mental health issues (4%), relationship concerns (3%), and AGYW (1%). Among all visits with PBFWH, 88% (n=3,433) had identified psychosocial needs, with 45% (n=1,545) psychological; 32.5% (n=1116) social and 22.5% (n=772) ART-related.

Among women with psychological needs, 11.5% (n=178) were diagnosed with depression or other mental health needs including suicidality; all were referred urgently for clinical evaluation and treatment.

Conclusions: Phone-based counseling facilitated access to psychosocial support for PBFWH from remote health facilities. Next steps include assessment of viral suppression outcomes among PBFWH who received PSC support.

EP0796

Coping mechanisms to depressive symptoms among young people living with HIV in Homabay County, Kenya

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Background: Prevalence of depression among young people living with HIV (YPLHIV) is documented to be high, compared to those who are not living with HIV. Being young and living with a chronic illness may result in either adaptive or maladaptive coping responses. Studies have shown that those who use maladaptive coping mechanisms are likely to have worse mental health outcomes.
This study sought to understand the coping mechanims used by YPLHIV in Homabay county in Kenya.
Methods: This was an analytical, cross sectional study incorporating in-depth interveiws conducted in Homabay county, Kenya among YPLHIV 18-24 years. 346 participants were recruited from twelve health facilities, randomly selected, and proportional allocation used to determine number of participants per facility.
Participants were randomly selected until sample threshold for the facility was met. A quantitative questionnaire collected demographics, incorporated depression screening using the patient health questionnaire (PHQ-9), assessed for coping and perceived social support. Nine in-depth interviews were conducted with a sub-set of those who scored moderate or severe on the PHQ-9.
Quantitative data was analyzed using descriptive and inferential statistics, while qualitative data was analyzed for emerging themes.
Results: Mean age was 21 years, 63% were female. 30.3% were students, 18.2% were on treatment for a year or less. 73.7% were intiated on treatment immediately after testing, and 91.4% were on a dolutegravir-based treatment with 88.2% indicated to have good adherence. 62.7% had ever been refered for adherence counseling, 61.6% had undetectable viral load.
Prevalence of depressive symptoms was 14.5% with high scores for suicidal ideation and feeling bad about self.
There was a significant relationship between the PHQ-9 score and avodiant coping $x^2(3, N=345)=37.509$, exact p= <.001) with 47.1% of those who scored moderate to severe on the PHQ-9 having a medium scoring for avoidant coping.
The analysis showed a significant relationship between PHQ-9 score and problem focused coping style $x^2(3, N=345)=25.707$,p= <.001). In-depth interviews reported maladaptive coping to stressors such as withdrawal, and thoughts of self harm.
Conclusions: Empowerment of YPLHIV to use adaptive coping for stressors through locally adaptable responses including enhanced adherence counseling and psychosocial support groups.

EP0797

Integrating mental health interventions into HIV care for rural communities in Kenya: addressing barriers and improving outcomes

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Background: Mental health challenges, such as depression, anxiety, are prevalent among people (PLHIV) and are often exacerbated by stigma, poverty, & limited access to care in rural areas. These challenges negatively impact adherence to antiretroviral therapy (ART) and engagement with HIV care, contributing to poor health outcomes. Despite growing recognition of the importance of mental health in HIV care, there is limited integration of mental health services into HIV programs, particularly in rural settings.
Description: This study examines the effectiveness of community-driven interventions aimed at integrating mental health services into HIV care in rural Kenya. Key interventions included training community health workers to provide basic mental health counseling, establishing peer support groups, and implementing mobile-based mental health screening tools to identify high-risk individuals. Data were collected from 500 PLHIV across three rural counties through surveys and focus group discussions over 12 months.
Lessons learned: Preliminary findings indicate a 40% reduction in symptoms of depression and anxiety among participants engaged in the interventions. ART adherence rates improved from 70% to 85% over the study period.
Participants reported increased access to mental health resources and a reduction in stigma associated with HIV and mental health issues. Peer support groups were particularly effective in fostering social connections and emotional resilience.
Conclusions/Next steps: Integrating mental health services into HIV care in rural communities can significantly improve health outcomes for PLHIV. Community-based approaches, such as task-shifting to community health workers and leveraging mobile technologies, are scalable and cost-effective solutions.
To maximize impact, policymakers should prioritize mental health as a core component of HIV care, particularly in underserved areas.

EP0798

A systematic review and meta-analysis of the prevalence and determinants of HIV-associated neurocognitive disorders in people living with HIV in Africa

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Background: HIV-associated neurocognitive disorders (HAND) are common among people living with HIV in Africa, affecting medication adherence, daily functioning, and quality of life. The high HIV burden and limited healthcare resources in the region increase the risk of HAND. While many studies have investigated HAND prevalence in African countries, comprehensive region-wide evidence is lacking. This systematic review and meta-analysis aim to estimate the prevalence and determinants of HAND in Africa, addressing this gap.

Methods: Following PRISMA guidelines, we conducted a systematic review and meta-analysis of studies assessing HAND prevalence in Africa. Data were sourced from Scopus, Web of Science, PubMed, and Google Scholar, with manual searches of reference lists from included studies. A random-effects model in R calculated the pooled prevalence of HAND. Heterogeneity was assessed using the I^2 statistic, and subgroup analyses were conducted by country and diagnostic criteria. Publication bias was evaluated with Egger's test.

Results: Of the 2,721 articles screened, 38 were included. The overall prevalence of HAND among people living with HIV in Africa was estimated at 48.5% (95% CI: 40.5, 56.5) with significant heterogeneity (I^2 = 97.03%, τ^2 = 0.062, $p \leq 0.001$). The highest prevalence was in Kenya at 78.79% (95% CI: 60.17, 97.40), while the lowest was in the Central African Republic at 25.00% (95% CI: 16.51, 33.49). Using different diagnostic criteria, the highest average prevalence was recorded with the International HIV Dementia Scale (IHDS) at 52.5%, followed by the Frascati criteria at 47.5%, the Montreal Cognitive Assessment (MoCA) at 47.0%, and the Global Dementia Scale (GDS) at 32.6%. Twelve studies identified HAND determinants, showing that older age (n = 6), low education level (n = 4), and advanced clinical disease stage (n = 3) increased the risk of HAND by 3.21, 4.50, and 4.45 times, respectively. No publication bias was detected.

Conclusions: The high prevalence of HAND in Africa is mainly influenced by older age, advanced disease stages, and lower education levels. Implementing health education, early HIV screening, and training health professionals on HAND in hospitals are crucial public health interventions for people living with HIV.

EP0799

Caring for the caregivers: preliminary findings from a pilot intervention to address well-being and stigma among healthcare workers providing HIV services in Zambézia Province, Mozambique

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Background: Healthcare workers (HCW) are at high risk of exhaustion and burnout. A pilot intervention to improve resilience and decrease stigma was implemented from January-June 2024 in Zambézia Province, Mozambique.

Methods: Four health facilities were randomly assigned to receive a resilience intervention, an anti-stigma intervention, both interventions, or be comparison. Biweekly resilience (focus: burnout, self-care, teamwork, work-life balance) and anti-stigma (focus: stigma, communication, humanization) sessions were facilitated by a licensed psychologist from February-April 2024.

Surveys (baseline, endline) were conducted with 90 HCW to evaluate the interventions' impact on psychosocial measures of burnout (Copenhagen Burnout Inventory), depersonalization (one-item measure), resilience (Early Warning Resilience Survey, decompression and activation factors), and HIV stigma (blame/judgement and interpersonal/social distancing factors).

Multivariable models were adjusted for inter-site correlation, as well as sex, work category and length of time as HCW, using linear mixed modeling. In-depth interviews were conducted with sub-group of HCW intervention participants. Thematic analysis was used to explore perceptions and suggestions.

Results: Participants (n=90) were predominantly female (62%), married/partnered (70%), and median age was 34 years. There were no statistically significant changes seen in scores for overall burnout, personal-, work- or client-related burnout, depersonalization, resilience or stigma. Participation in anti-stigma intervention was associated with a change in work-related burnout score (p=0.033) in the multivariable model; no other associations found.

Participation in resilience intervention was not associated with changes in overall burnout, personal-, work-, or client-related burnout, depersonalization, or resilience scores. However, the intervention showed a trend towards an association with changes in resilience score in the multivariable model, though not statistically significant (p=0.065).

Participants favored a continuation for both types of intervention which they perceived as supportive, educational and acceptable methods for providing reinforcement for HCW well-being and workplace interactions.

Conclusions: Neither of our novel interventions showed significant improvement in overall burnout, depersonalization, resilience or stigma among HCW participants. Nevertheless, significant improvement seen in work-related burnout scores and positive trends in resilience scores, together with favorable HCW acceptability of the interventions, suggest continued investigation to identify optimal components for effectively increasing HCW resilience and reducing stigma, particularly for those providing care in resource-constrained setting such as Mozambique.

EP0800

Psychological burdens of adolescents living with HIV in Indonesia: depression symptoms and the need for tailored mental health support

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Background: Adolescents Living with HIV (ALWH) face various psychosocial and behavioral challenges due to the developmental stages of human maturation accompanied by the challenges of coping with HIV as a stigmatizing illness that pose a range of potential psychological challenges to the ALWH.
Yet, HIV studies focusing on emotional health including depression symptoms among them are sparce along with a notable absence of culturally adapted, context-specific recommendations for such youth in low middle-income countries including Indonesia.
This study investigates the symptoms of depression among ALWH in Indonesia.
Methods: This cross-sectional study enrolled 143 ALWH ages 13-18 living with HIV in seven cities in Indonesia who have been told about their HIV serostatus. The youth were referred by local HIV nongovernment organizations in each city. The youth's self-reported symptoms of depression was measured through face-to-face interviews using the Patient Health Questionnaire (PHQ)-9.
Results: Participants' averaged 15.9 years of age with 55.94% of participants were girls. Of the 143 participants, slightly less than half (45.5%) reported symptoms of moderate to severe depression in the past two weeks.
The most frequently reported symptoms were sleep disturbances, appetite/eating problems, and trouble concentrating.
The overall rate of suicidal ideation of participants in this study was 15.38%, with a higher rate of frequency found among participants who were acquired at adolescence (19.35%) than perinatally (14.29%).
The selected model in multivariate analyses showed that girls, becoming infected with HIV through risky behavior, taking ARV infrequently, and having more threatening perceptions of HIV reported greater level of depression symptoms.
Conclusions: As possibly the first studies of ALWH in Indonesia that examine depression symptoms and factors related to it, the study's results suggested the importance of developing mental health support and culturally tailored services for ALWH, particularly to reduce depression symptoms by incorporating the factors contributing to it. HIV programs for ALWH could include strategies that reduce adolescents' negative perception of HIV, routine mental health screening, provide them psychological and social support, and help them in identifying and adopting effective coping methods, and build resilience in overcoming the possible adversities of illness and successfully confronting the challenges of living with HIV.

EP0801

Feasibility and acceptability of KP led mental health support

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Background: WHO estimates that 5% of adults globally suffer from depression and data from Responded Driven Surveys (RDS) conducted between 2016 and 2017 show prevalence of between 41-48% of common mental disorders (CMDs) amongst female sex workers in Zimbabwe. Key Populations (KPs) suffer from depression due to their increased exposure to risk factors like violence, discrimination and stigmatization and this may affect their health outcomes. To address this challenge, we sought to offer in our health facilities and in the community, KP led mental health services that are feasible, acceptable and sustainable.
Methods: We quantitatively analysed program data spanning over three years (2022 to 2024) in the friendship bench server from five KP districts in Zimbabwe collected by 44 KP Lay counsellors trained to administer the Shona Symptom Questionnaire (SSQ) to screen for CMDs.
We analysed the number of sessions conducted by Lay counsellors, recorded reasons for each visit to the Lay counsellor, each KPs SSQ score, number of repeat sessions and number of red flags referred for further support.
Results: Between January 2022 and September 2024, 15 570 KPs were screened for CMDs by Lay Counsellors. The majority (65%) of KPs were seen at the facility or Drop-in Centre, 28% were seen in the community and the rest received virtual support.
Of those seeking mental health services, 40% where below the age of 25 and 90% where Female Sex Workers. KPs who recorded a SSQ score of above 8 were 59% and proceeded to receive counselling sessions and support services specific to their needs.
Conclusions: Our KP led model of integrating mental health and HIV services tailored to the specific needs of KPs is feasible, reduces symptoms of CMDs, improves health outcomes while ensuring that their mental health challenges are adequately addressed. Adopting innovative ways to diagnose and address mental health challenges among KPs is key to ending AIDS. This model is

sustainable, has potential to increase uptake of health services and improve retention of KPs in HIV prevention, treatment and care programmes.

EP0802

Body Mapping: using arts-based methods to address psychosocial trauma and stigma in marginalised heterosexual people living with HIV from cultural and linguistically diverse (CALD) backgrounds in Greater Western Sydney, Australia

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Background: Complex psychosocial trauma and multi-dimensional stigma associated with HIV diagnosis and/or living longer-term with HIV is common and still experienced by marginalised communities of people living with HIV (PLHIV) in Australia, particularly those identifying as heterosexual. This can impact on decreased rates of retention in care, treatment adherence and viral suppression, and poorer awareness and engagement with peer navigation programs, mental health and well-being outcomes.
Arts-based research methods allow those from marginalised populations to safely explore and interpret difficult emotions and experiences, create a therapeutic effect by focusing on strength and resilience, and reduce self and perceived-stigma.
Description: Positive Life NSW (PLNSW) facilitated a structured body mapping workshop for 18 participants from CALD backgrounds/living long-term with HIV to address psychosocial issues experienced by heterosexually identifying PLHIV in Greater Western Sydney in April 2023.
Body mapping involves tracing around a person's body to create a life-sized outline which is filled in during a creative, reflective process using mixed media to represent and express personal, embodied experiences.
Two body mapping practitioners, an artist and a psychotherapist provided a safe, supportive environment for participants to express through art their past and future selves, whilst working towards reducing perceived and self-stigma, creating self-acceptance, and improving overall quality of life (QoL).
Lessons learned: PLNSW's previous community engagement strategies observed compounded trauma, perceived/self-stigma were preventing heterosexual PLHIV from moving forward with their lives post-diagnosis. Feelings of loss, grief, and fear of separation from cultural communities due to shame contributed to social isolation and poorer health, mental, sexual and physical health outcomes. The workshop was developed to assist this group with 'seeing beyond' their diagnosis using self-reflection techniques. Participants' feedback was overwhelmingly positive with most preferring a longer workshop. Critical knowledge was imparted by the external body mapping practitioners, allowing the workshop to be developed by and for community in the future.
Conclusions/Next steps: Participants stated they found the body mapping process to be cathartic and life-changing, and many became more meaningfully engaged with their communities utilising techniques learned. Overall, self-reflection fostered more positive relationships, improved physical and mental health outcomes leading to reductions in self-stigma and better QoL.

EP0803

Correlates of poor mental health among Jamaican sexual minority men living with HIV

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Background: Sexual and gender minorities (SGM) in Jamaica experience disparate rates of stigma, violence, and poor mental health. Jamaica has one of the highest HIV prevalence among SGM in the Caribbean, with a prevalence of 33% among sexual minority men (SMM) and an alarming 51% among transgender women (TW) compared to 1.8% in the general population. Within this context of high HIV prevalence and poor treatment outcomes, data suggest higher rates of depression and anxiety among SGM, with a large majority of TW reporting symptoms that are indicative of poor mental health. Therefore, research is needed to explore the interplay between intersectional stigma, violence, mental health, and HIV care engagement among this population.
Thus, the purpose of this study is to examine the drivers of poor mental health among Jamaican SMM living with HIV who are currently engaged in care.
Methods: We conducted a cross-sectional survey among a sample of 350 sexual and gender minorities living with HIV in Jamaica. Participants were recruited from a community-based organization operating three HIV clinics islandwide between January and May 2024. Data analysis included summary statistics and multiple linear regression using STATA version 18.
Results: Participants ranged in age from 18 to 71 years (mean age of 33). The majority of the sample identified as male (90%), not college educated (70%), identified with a religion (84%), and made less than $100k JMD per year (66%).
We developed an integrated framework to examine individual, environmental, and sociodemographic risk factors for loneliness, depression, anxiety, and anxiety-related sleeplessness among SMM living with HIV in Jamaica.
Negative self-image was a significant individual-level risk factor for loneliness, depression, and anxiety. Adverse childhood experiences were a significant environmental risk factor for these outcomes and anxiety-related sleeplessness. Regarding sociodemographic factors, SMM aged 18–24 years and 25–34 years were at higher risk of loneliness, depression, and anxiety compared to those aged 35 years and older.

Conclusions: Our results show multiple factors influencing loneliness, depression, anxiety, and anxiety-related sleeplessness among Jamaican SMM.
Our findings also highlight the urgency for both individual and structural-level interventions to address the mental health needs of SMM living with HIV.

Gender, sexuality and sexual cultures: Meanings, identities, norms and interventions

EP0804
Quality of life of among ageing women living with HIV/AIDS in West Bengal, India

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Background: Several effective ART interventions have increased the life expectancy of people living with HIV/AIDS (PLHA), where PLHA experience more morbidity and mortality than others. The age-specific illnesses and disorders related to cancers, mental or psychological diseases, cardiovascular diseases, bone issues, and other geriatric syndromes greatly alter and affect their well-being.
This paper aims to investigate the emerging issues of women while ageing with HIV/AIDS in West Bengal, India. These issues are co-related with various gender inequalities and inequities that dominate the lives of women in the region.
These structural variants hinder identification, diagnosis, and access to healthcare services, which significantly impairs the quality of life of these women.
Methods: About 31 women aged 45 years and above who were living and ageing with HIV participated in the study during 2023-24. For statistical investigation, an Interpretative Phenomenological method was used to investigate and interpret their narratives. The self-accounts of participants were not seen as revealing any generic 'truth'; rather, they were treated as stories whose meanings are situationnally located and require to be explored. The results showed in themes and sub-themes, with qualitative- illustrations.
Results: The results revealed that women were more likely to be invisible and isolated, keeping their status hidden from social ecology, which resulted in the shrinking of their social network and, thereby, an increase in their emotional disconnect.
They were afraid to disclose their HIV status because of the stigma and discrimination surrounding the illness in the local- communities.
Most of these women reported early onset of age-specific and other- geriatric disorders like osteoporosis, cardiovascular issues and mental health disorders, but they preferred not to visit healthcare settings for fear of disclosure. They also majorly reported loneliness and isolation. The altered and ageing immune system was postponed and increased the burden of illnesses, which had negatively affected their health trajectory and reduced their quality of life and well-being.
Conclusions: The findings of this study reinforced that increasing complications of care for PLHA need to be addressed through effective evidence-based interventions to enhance the quality of life among WLHA after adhering to ART therapy in West Bengal, India.

EP0805
The impact of stigma and socioeconomic barriers on HIV treatment adherence in Conakry, Republic of Guinea: a gender perspective

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Background: HIV remains a significant global health challenge, with sub-Saharan Africa most affected. In West Africa, including Guinea, adherence to antiretroviral therapy (ART) and retention in care face challenges due to stigma, socioeconomic barriers, and limited healthcare access.
This study investigates ART adherence determinants and stigma's impact on people living with HIV (PLHIV) in Conakry, focusing on gender differences.
Methods: A cross-sectional study was conducted in four DREAM Centers in Guinea. Data were collected using a questionnaire on relationship with healthcare services, adherence to treatment, experiences of stigma, and socio-demographic characteristics.
Adherence was measured using the Morisky Medication Adherence Scale, and stigma was assessed using a modified HIV Stigma Scale.
Results: During the study, 472 patients met inclusion criteria, with 70 refusing participation; 402 were included, 82% female and 18% male, with a median age of 32 years (IQR: 27–40). Of these, 82% were actively in care, and 18% re-engaged after treatment interruption. Education levels were 37% illiterate and 63% educated, with 91% employed. Median travel time to the DREAM center was 1 hour (IQR: 0.75–2), and 42% reported high stigma.
Patients re-engaging in care lived farther from the center (median: 2 vs. 1 hour, OR 1.18, $p = 0.038$) and had lower adherence rates (32% vs. 78%, OR 0.14, $p < 0.001$). Lower adherence was linked to longer time in therapy (82% vs. 96%, COR 0.19, $p < 0.001$). Higher adherence correlated with greater trust in treatment (99.6% vs. 77%, COR 42, $p < 0.001$), living with children (59% vs. 41%, COR 1.93, $p = 0.004$), and lower stigma (34% vs. 55%, OR 0.55, $p = 0.011$). Among men, stigma was the primary factor for low adherence (OR 0.32, $p = 0.05$), while for women, adherence was associated with shorter time in care, higher trust in treatment, and having children (AOR 0.22, $p = 0.001$; AOR 38.5, $p < 0.001$; AOR 2.09, $p = 0.004$).

Conclusions: Stigma and healthcare access are critical barriers to adherence among PLHIV. Gender-specific differences suggest that tailored interventions are needed to address these unique challenges.

EP0806

Depression and sexual addiction among transgender women in China

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Background: Depression is prevalent among transgender women, leading to various negative consequences. Sexual addiction can lead to interpersonal conflict, social and occupational issues, psychological distress, and financial problems. Our study aimed to investigate the relationship between depression and sexual addiction in transgender women.
Methods: This cross-sectional study was conducted from October 2017 to December 2019 in Shenyang, China. Sexual addiction was measured using the Sexual Compulsivity Scale (SCS), and depression severity was assessed using the Patient Health Questionnaire (PHQ-9). Multiple linear regression analysis was used to assess the association between depression and sexual addiction in transgender women.
Model 1 did not adjust for any variables;
Model 2 adjusted for sociodemographic variables (age, education level, marital status, income, residence, smoking);
Model 3 further adjusted for sexual characteristic variables (sexual orientation, alcohol consumption frequency before sexual behavior, drug use, verbal violence, sexual violence, willingness for VCT, HIV status).
Results: Our study included 423 transgender women, of whom 60.05% reported varying degrees of depression .The average score for sexual addiction among transgender women was 21.57 ± 5.90. The study found a positive correlation between different levels of depression and sexual addiction.
Compared to transgender women without depression, those reporting mild (β = 3.16; 95% CI: 1.96-4.37; P < 0.001), moderate (β = 4.12; 95% CI: 2.58-5.67; P < 0.001), and severe (β = 7.46; 95% CI: 5.59-9.32; P < 0.001) depression had higher sexual addiction scores. The association remained significant after adjusting for Model 2 and Model 3, although the effect size decreased and was consistent across all depression levels.
Conclusions: A statistically significant positive correlation is found between depression severity and sexual addiction. The worsening of depressive symptoms is closely associated with an increase in sexual addictive behaviors, with transgender women reporting mild to severe depression showing higher levels of sexual addiction.
After adjusting for sociodemographic and sexual characteristic factors, this relationship remains significant, although the effect size is reduced. These findings suggest that mental health issues in transgender women may be an important factor influencing sexual addiction. Future research should emphasize the integrated consideration of mental health interventions and sexual behavior management in transgender women.

EP0807

Exploring gender differences in food security and nutrition vulnerability among people living with HIV in East Africa

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Background: Food and nutrition security are critical for achieving positive health outcomes, particularly among People Living with HIV (PLHIV) in the East African Region. While country-specific evidence on food security and nutrition vulnerability among HIV-affected households exists, regional-level evidence remains scarce.
In 2024, the World Food Programme (WFP) initiated an exercise to generate a regional synthesis based on existing data on food security, nutrition, and socio-economic vulnerability across six East African countries.
Methods: This review analyses food security, nutrition, and socio-economic vulnerability assessments conducted by WFP in partnership with UNAIDS and relevant ministries over the past decade in six East African countries: Kenya, Somalia, South Sudan, Rwanda, Burundi, and Djibouti. These cross-sectional studies targeted PLHIV undergoing treatment. Cleaned quantitative datasets from these studies were reviewed and analysed using SPSS V20 to identify cross-cutting data points. A total of 7,058 study respondents were included in the analysis. Descriptive statistics (frequencies, means) and crosstabulations were used to examine the relationships between gender and food security, nutrition, and socio-economic factors among PLHIV and their households.
Results: The gender distribution across the countries under review showed a higher representation of women (69%) compared to men (31%). Food Consumption Score (FCS) analysis revealed that 35% of HIV-affected households headed by women had a poor FCS, which is 7% higher than that observed in male-headed households. Undernutrition was more prevalent among males (30.4%, n=637) than females (22.1%, n=976), while overnutrition was more common in females (23.1%, n=1019) compared to males (10.4%, n=218). Additionally, 68% of men (n=1714) reported having access to formal education, a higher proportion compared to women (64%, n=2914).
Conclusions: At the regional level, women living with HIV are especially vulnerable, reflecting the added impact of gender disparities and social marginalization. While each country's context differs, the synthesis highlights a shared pattern: when HIV intersects with resource scarcity, fragile health systems, and pervasive inequality, food insecurity and malnutrition are further exacerbated. A holistic, gender-transformative approach is crucial to address the specific needs of women living with HIV in East Africa.

EP0808

Community-centered strategies for trans people living with HIV: promoting whole-person care and social equity

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Background: Trans people living with HIV in Latin America and the Caribbean face structural barriers to accessing health care, including pervasive stigma, discrimination, and socioeconomic challenges. These factors contribute to poor health outcomes and low adherence to antiretroviral therapy (ART). In response, RedLacTrans, in partnership with CeDoSTALC, has developed community-driven interventions to address these challenges.
The program aims to foster safe, inclusive, and empowering environments that enhance ART adherence and overall well-being for trans populations.
Description: The program, implemented across various countries in Latin America and the Caribbean, centers on trans-led, community-based initiatives that integrate social and behavioral sciences into HIV care. Key activities include peer-led health promotion, psychosocial support, and the creation of gender-affirming spaces to reduce stigma and build trust. By addressing structural barriers such as food insecurity and mental health disparities, the program ensures a holistic approach to care.
Leadership development among trans individuals is a core component, empowering communities to drive their own health outcomes while advocating for systemic change.
Lessons learned: Findings from CeDoSTALC confirm that community-centered interventions significantly improve treatment adherence. Trans people who receive care in affirming and supportive environments demonstrate greater trust in health systems, leading to higher ART adherence rates and improved quality of life.
The incorporation of peer-led models fosters a sense of community ownership and reduces the isolation often experienced by trans people living with HIV.
These strategies also highlight the importance of integrating gender-affirming care into HIV services, which has a measurable positive impact on mental health and treatment outcomes.
Conclusions/Next steps: Community-driven interventions represent a scalable and replicable model for improving health outcomes among trans people living with HIV. The program's success underscores the importance of centering the voices and leadership of trans populations in the design and implementation of health services.
Future efforts will focus on expanding these initiatives to additional regions, deepening the integration of mental health and gender-affirming care, and addressing broader structural determinants of health to ensure sustainability and equity in HIV care.

EP0809

Factors associated with disclosure of sexual orientation and behaviors among gay, bisexual and other men who have sex with men (GBM) in Mumbai, India

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Background: Non-disclosure of sexual orientation (i.e., outness) can negatively impact the well-being of gay, bisexual, and other men who have sex with men (GBM), hinder access to support and health services, and influence HIV risk. Understanding factors associated with outness is crucial to developing effective interventions, but little is known on this topic for GBM in India.
This study examined factors associated with disclosure among GBM enrolled in a virtual intervention in India.
Methods: We analyzed baseline survey data from 1,004 GBM (aged 18+) in Mumbai, India recruited from online platforms and enrolled in a mHealth randomized trial between April 2022-December 2024.
Guided by the minority stress and disclosure process theories, we examined three disclosure outcomes using separate logistic regressions:
1. Out to someone,
2. Out to LGBTQ+ individuals, and;
3. Out to everyone.
Reported as adjusted odds ratio [95% CI], factors examined included sociodemographic characteristics, internalized homonegativity ('self-stigma') and HIV related risk: HIV testing history, condom use, and risky alcohol use (AUDIT-C).
Results: Participants' median age was 27 (IQR 23-32) and 29% had low-income (USD<$119/month). 64% were out to someone, 43% were out to LGBTQ individual(s), and 21% were out to everyone (not mutually exclusive).
Multivariable analyses showed that in all three different outness models, disclosure was associated with always using condoms but increased risky alcohol use, and less likely among older participants, those with lower income, less education, and heterosexual identity (versus gay/queer identities), all $P<.05$. Out to someone was associated with lower homonegativity (aOR 0.94, 95% CI: [0.91-0.98]) and having someone to talk about sexual health concerns (aOR 2.12, [1.22-3.83]). Out to other LGBTQ individuals was associated with lower homonegativity scores (aOR 0.96, [0.92,0.99]) and less illicit drug use (aOR 0.34, [0.17, 0.65]). Outness was not associated with HIV testing.
Conclusions: Disclosure of sexual orientation was generally associated with lower HIV risk behaviors. However, lower disclosure rates among GBM with low socioeconomic status, older age, and higher internalized homonegativity highlight the need for tailored interventions.
Future research can explore the potential causal relationships between outness and health behaviors thereby contributing to more comprehensive health promotion among GBM in India.

EP0810

"Men behave like babies:" the role of gender norms in shaping relationships between HIV care providers and men living with HIV in Uganda

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Background: UNAIDS called for a better global response to engage men in HIV services in their seminal "Blind Spot" report. Much research has focused on how gender norms shape men's HIV-related behaviors, but there is less evidence of health-systems drivers of men's engagement in HIV care. Understanding how providers perceive men as clients and how their treatment of men is shaped by gender norms can inform the development of interventions to improve men's HIV care engagement.

Methods: This qualitative study was conducted in a rural and peri-urban area in central Uganda. In 2020, we conducted 7 focus groups and 15 key informant interviews involving a total of 56 people.

Focus groups included: community members (n=12); HIV care clients (n=12); HIV health and lay health workers (n=17). Key informants had expertise in HIV and the health system (e.g., district leaders).

We elicited respondents' perceptions of gender norms, clients' gendered barriers to care, and dynamics between providers and clients. We used thematic analysis to analyze our data guided by the social ecological model.

Results: Providers named gender-norm related barriers to men's HIV service use, with work conflict and HIV stigma the primary barriers, resulting in the perception that men were "bad clients" at the clinic. Women providers agreed that their status as health workers was frequently undermined by men because of societal gender roles, describing some men as unwilling to take their direction.

While they recognized that men's behavior was related to gender-related barriers, they expressed frustration towards men and stated little empathy for their challenges.

At the health systems-level, participants named existing gender-sensitive and -specific approaches to engage men. However, their implementation may be limited by pervasive "gender-blind" attitudes expressed by providers (i.e., views that men and women should be treated the same).

Conclusions: We found providers had negative perceptions of men as clients, linked to men's gendered socialization and barriers to care, which may lead to poor treatment of men and exacerbate men's disengagement. Providers need training to increase their gender-sensitive treatment of men living with HIV and to strengthen their implementation of existing gender-sensitive interventions.

EP0811

Acceptance of PEP to PrEP transitioning among adolescent sexual violence survivor's and its challenges in Taraba State, Northeast Nigeria

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Background: Sexual violence remains a pervasive violation of human right and dignity disproportionately affecting girls and women globally with developing Sub-Sahara Africa shouldering one of the highest burden. Experience of sexual violence leaves survivor's traumatized, and even worse when justice is not served. Post-Exposure Prophylaxis (PEP) use has drastically lowered the burden of new HIV infection following sexual violence particularly rape. Vulnerability to repeated experience of sexual violence is the bedrock for transitioning survivors from PEP to initiation on Pre-Exposure Prophylaxis(PrEP). This study aims to assess PEP-to-PrEP transitioning acceptance among participants.

Methods: Cross sectional descriptive study which used randomized sampling method from the pool of sexual violence survivors. 162 participants were recruited and administered a semi-structured questionnaire. Health care providers serving as gender or PrEP focal persons administered the questionnaire. Analysis was done using SPSS 22.0 version.

Results: The mean age of participants was 16.4±2.1 years with 128 girls and 32 boys. Majority (87%) were either in junior or secondary education. Most common reported sexual violence was rape (76%) and sexual molestation (24%). PEP use among rape survivors was at 89% and provided by trained health care workers. Survivors reported receiving minimum clinical care: psychosocial counselling (98%), HIV testing services (100%), emergency contraceptives (46%), treatment of injuries (88%), testing for other STI's (37%) and non-clinical care referral (92%). Only 53% reported completion of PEP regimen. Common reason for non-use of PEP was late presentation beyond 72hours. Survivor relationship with perpetrator revealed uncle (6%), cousin (23%), family friend (33%), peer (28%), stranger (17%), biological parent (<1%), direct-sibling (<1%), step-sibling (9%). 88% survivors received referral for pro-bono legal services while 91% received referral to other non-clinical care services.

Only 24% accepted PrEP following PEP completion however 78% PrEP acceptance was reported among survivors who received PrEP counselling at PEP completion re-testing first follow up visit. Acceptance of PrEP transitioning further grew to 89% after counselling and vulnerability assessment on the 2nd follow-up visit.

The most common reported reason for non-acceptance for transitioning was fear of daily drug intake.

Conclusions: Continuous counselling is proven in improving acceptance of PEP-to-PrEP transitioning among adolescent sexual violence survivors.

EP0812

From understanding barriers to targeted quality interventions: to Improving PEP initiation and completion rates among sexual and gender-based violence survivors in Uganda

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Background: Sexual and Gender-Based Violence (SGBV) remains a critical public health issue in Sub-Saharan Africa, this presents a risk of HIV transmission and an increase in unintended pregnancies. Post-Exposure Prophylaxis (PEP) is a proven intervention to reduce HIV acquisition among SGBV survivors. However, in 2023, only 15% of survivors initiated on PEP in Uganda completed the 28-day regimen.

A Root Cause Analysis (RCA) was conducted to identify barriers to PEP initiation and completion at individual, healthcare, and community levels, informing targeted Quality Improvement (QI) interventions.

Description: A mixed-methods approach was employed, engaging 227 survivors who declined or did not complete PEP across eight regions of Uganda. In-depth interviews with community stakeholders, including local leaders, police personnel, and women's groups, highlighted their roles in timely survivor referrals.

Key barriers to PEP initiation included fear of social isolation, community judgment, misinformation about PEP, and stigma associated with perceived HIV status. Discontinuation of PEP was linked to physical side effects and inadequate adherence support.

A nationwide QI intervention was implemented in 390 high-volume sites, guided by national guidelines and RCA findings. Sites developed tailored strategies to address identified challenges, and monthly learning sessions facilitated the sharing of successes, lessons, and challenges. The intervention aimed to improve both short-term PEP outcomes and long-term integration of best practices into routine healthcare delivery.

Lessons learned: The proportion of eligible survivors initiated on PEP increased from 82% (n=806) in October 2023 to 99% (n=376) in October 2024. Completion of the full PEP regimen improved from 72% (n=576) to 95% (398) during the same period. Collaborative efforts and site-specific QI strategies were pivotal in achieving these results.

Conclusions/Next steps: A collaborative approach involving survivors, healthcare providers, and community stakeholders effectively addressed barriers to PEP initiation and completion. Tailored QI interventions demonstrated significant potential to improve HIV prevention outcomes for SGBV survivors and to embed sustainable practices into healthcare systems.

EP0813

Leveraging WhatsApp technology to enhance sexual offenses case reporting and justice delivery in Siaya county, Kenya

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Background: In Kenya, human rights and gender-related barriers hinder access to health services. Sexual and gender-based violence (SGBV) against children and young people aged 0–24 years remains a critical issue. SGBV survivors often struggle to access justice due to systemic inefficiencies and delays. This implementation science examined the role of WhatsApp technology in bridging the gap between communities and the justice system by improving coordination among paralegals and probono advocates in Siaya County.

Description: Eleven paralegals and two probono-advocates were mapped, profiled, and trained, prioritizing paralegals under 25 years of age. After completing 21-day training curriculum covering legal frameworks and case management, they were registered with the Paralegal Society of Kenya.

A WhatsApp group established and served as a centralized communication platform, facilitating the timely reporting of new cases, updates on court dates and requirements, logistical planning for court appearances, and mentoring for young paralegals.

Advocates shared key information from court e-filing systems, enabling paralegals to update clients and prepare for court sessions. Data security was ensured through encryption and sharing only non-identifiable information. Quarterly review meetings provided opportunities to monitor progress, gather feedback, and refine approaches, fostering continuous learning

Lessons learned: Between 2023 - 2024, the WhatsApp platform significantly improved case reporting and resolution. Identified and followed-up cases increased by 150% (170 cases in 2024 compared to 68 before 2023). Reporting of sexual offences surged by 383%, and case completion rates rose from 34% in 2022 to 57.3% in 2023, reaching 74.6% in 2024.

Previously 46 stalled cases, including rape and defilement, were prioritized and resolved, reducing the backlog of SGBV cases. Nine cases filed in 2024 received judgments in an average of 2.5 months post filing which was fast enough.

Six months post-project, the practice was sustained without donor support, as paralegals continued to strengthen referral structures, ensuring long-term impact. The paralegals have embraced the practice and further incorporated resource mobilization techniques to strengthen the referral structures within Siaya county.

Conclusions/Next steps: WhatsApp technology offers a scalable, cost-effective solution for improving SGBV case management and justice delivery in resource-limited settings.
This innovation provides a replicable model for addressing SGBV challenges in similar settings.

EP0814

Sexual identity and condomless sex among Mexican MSM: the overlooked role of heterosexual-identified MSM

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Background: Condomless sex among men who have sex with men (MSM) drives HIV transmission in Mexico. Prevention mainly targets MSM who are part of the LGBTQ-community (GB-MSM), excluding self-identified heterosexual MSM (H-MSM). Understanding risk behaviors of each group is crucial to comprehensively address the drivers of the HIV epidemic.
Methods: We identified MSM based on self-reported male partners in the 2021 Mexican National Survey on Sexual and Gender Diversity. Pearson's chi-squared tested differences between H-MSM and GB-MSM, while probit models assessed condomless sex likelihood, adjusting for socio-demographics, sexual behavior, violence, and stigma.
Results: We identified 1,083 cisgender MSM, representing 5% of Mexican men. Among them, 54% identified as heterosexual. GB-MSM and H-MSM were significantly different: GB-MSM reported less condomless sex (58% vs. 78%), and were less often married (41% vs. 68%) or living with their partner (39% vs. 64%).
A higher proportion of GB-MSM reported only male partners in the past year (77.3%); still 43.4% of H-MSM did as well. GB-MSM, versus H-MSM, were younger (31.5y vs. 39y), more educated (33.3% vs. 13.4%), reported higher socio-economic status (38.7% vs. 24.8%), and were less likely to have had a female partner during their first sexual experience (64.0% vs. 84.9%).
GB-MSM were more likely to report experiencing sexual violence (7.2% vs. 3.9%), and to perceive stigma regarding public displays of affection, same-sex marriage, and adoption (74%, 74%, and 66%, respectively, vs. 49%, 57%, and 46% among H-MSM).
In the probit model, condomless sex was significantly less likely among GB-MSM (-10.8%), those whose first sexual partner was male (-10.1%), and those with both male and female partners in the last year (-12.9%; versus female only).
However, older participants (0.4%/y), those living with partners or family/friends (26.2% and13.0%, versus living alone), those who started sex at younger age (10.7%), and those who experienced sexual violence (13.4%) were more likely to report condomless sex.
Conclusions: Mexican GB-MSM and H-MSM differ in socio-demographics and sexual health risks. While GB-MSM reported less condomless sex, they faced greater stigma and sexual violence. High rates of condomless sex among H-MSM, many with exclusively male partners, underscore the need for targeted HIV prevention.

EP0815

An exploration of the impact of sexual violence on the lives of Jamaican people of trans experience: a qualitative interpretive phenomenological study design

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Background: The prevalence of HIV is exceptionally high among transgender women (TGW) in Jamaica when compared to similar populations on the island. Childhood sexual abuse and sexual assaults in adulthood are two forms of violence that increase vulnerability to HIV. Previous studies among MSM have provided a glimpse into the pervasiveness of sexual violence in Jamaica. However, a noticeable gap in the literature is an exploration of the impact of these forms of violence on the lives of transgender individuals in the Caribbean, specifically in Jamaica.
The purpose of this study is to explore the impact of sexual violence on the lives of Jamaican people of trans experience.
Methods: In this qualitative interpretive phenomenological study, we utilized in-depth, individual, semi-structured interviews as the primary source for data collection. Data were collected between January 2018 to January 2019 from 40 adult participants located in Kingston, Jamaica. Interviews were recorded, transcribed verbatim, and analyzed using thematic content analysis.
Results: Participants age ranged between 18 to 39, with a mean of 25 years. The majority identified as transgender women (62%) and trans men (22%), with the remaining as genderqueer (15%). Participants sexual identity was mixed with the majority identifying as gay or bisexual (57%), queer or pansexual (27%), straight (10%), or other (5%).
Over half the sample reported their age of sexual debut between 2-14 years of age (55%), with 85% reporting the sexual encounter not being with someone of the same age. Participants reported forced first sexual experience (40%), with the perpetrator being male (83%).
Common themes emerged that highlight the patterns and nature of the abuse, the characteristics of the perpetrators, and the ways in which participants engage agency and resiliency as a basis to reclaim personal power.
Conclusions: These findings serve as a catalyst for understanding how experiences with CSA and sexual assault affect the lives of Jamaican transgender individuals. The findings also help us understand how those experiences

with sexual violence may impact attitudes and behaviors regarding accessing HIV treatment and prevention. Our findings also have implications for shaping legal, policy, clinical, and mental health services for Jamaican transgender survivors of sexual violence.

EP0816

Strengthening gender-responsive approaches to HIV prevention among adolescent girls and young women in Kenya: a community-centered model

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Background: Adolescent girls and young women (AGYW) account for a significant proportion of new HIV infections in sub-Saharan Africa, including Kenya. Gender inequalities, poverty, limited access to sexual health education, and social norms exacerbate their vulnerability. Despite targeted interventions, the uptake of HIV prevention services among AGYW remains low, particularly in rural areas.
This study evaluates a gender-responsive, community-centered approach to addressing these challenges.
Description: A participatory action research model was employed across three rural counties in Kenya, engaging 600 AGYW aged 15–24 years. Key interventions included comprehensive sexuality education sessions delivered by trained female mentors, the provision of pre-exposure prophylaxis (PrEP), and economic empowerment programs such as vocational training.
Additionally, parents and community leaders were engaged through dialogue sessions to address harmful gender norms. Data were collected through surveys and interviews over a 12-month period.
Lessons learned: The intervention led to a 30% increase in PrEP uptake and a 25% reduction in self-reported risky sexual behaviors among participants. Over 70% of AGYW reported improved knowledge of HIV prevention strategies. Community dialogues resulted in a 40% increase in parental support for AGYW accessing prevention services. Economic empowerment initiatives were associated with higher self-esteem and reduced dependency on transactional relationships, a key driver of HIV risk.
Conclusions/Next steps: Gender-responsive, community-centered interventions can effectively reduce HIV vulnerability among AGYW in rural Kenya.
Holistic approaches that combine education, health services, and economic empowerment, while addressing harmful social norms, are critical to achieving sustainable impact. Scaling up such interventions and integrating them into national HIV prevention programs should be prioritized.

Implementation research to scale up HIV testing

EP0817

A game changer: acceptability of long-acting injectable PrEP (cabotegravir) among female sex workers and men who have sex with men in Nakonde District, Zambia

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Background: In February 2024, Zambia became the first country in sub-Saharan Africa to introduce long-acting injectable PrEP (CAB-LA) outside of a study setting. This rollout, implemented in Nakonde District targeting female sex workers and men who have sex with men, populations at substantial risk of HIV. CAB-LA offers a convenient alternative to oral PrEP, addressing adherence challenges and stigma, while enhancing HIV prevention outcomes.
This study evaluated the acceptability and early outcomes of CAB-LA in this high-risk border district.
Methods: A mixed-methods study was conducted from February to September 2024, engaging 250 individuals (150 FSWs and 100 MSMs) enrolled in the CAB-LA program. Quantitative data on uptake, retention, and satisfaction were extracted from program records, while qualitative data were gathered via focus group discussions and interviews. The study explored factors influencing willingness to initiate CAB-LA, barriers, retention over the first six months.
Results: Among those approached, 85% of FSWs (128/150) and 78% of MSMs (78/100) initiated CAB-LA. High acceptability was driven by:

- Convenience: 94% (121 FSWs) and 89% (69 MSMs) preferred bi-monthly injections over daily pills.
- Discretion: 87% (111 FSWs) and 82% (64 MSMs) valued CAB-LA's reduced stigma compared to oral PrEP.
- Perceived Efficacy: 90% (115 FSWs) and 85% (66 MSMs) expressed confidence in CAB-LA's effectiveness.

Retention was high, with 91% of FSWs and 88% of MSMs returning for their second dose. Side effects were minimal, with 10% (13 FSWs) and 12% (9 MSMs) reporting mild injection-site reactions. Barriers to uptake included fear of needles (27% FSWs, 25% MSMs) and limited initial knowledge about CAB-LA (33% FSWs, 30% MSMs).
The rollout was supported by peer educators, key population civil society organizations, and micro-planning approaches.
These strategies enhanced education, addressed misconceptions, strengthened community engagement, leading to increased demand for CAB-LA.
Conclusions: The introduction of CAB-LA under the USAID CHEKUP II Activity was a game changer for HIV prevention among FSWs and MSMs in Nakonde, with strong uptake and retention.
This experience demonstrates the potential for scaling long-acting PrEP to diverse key populations in sub-Saha-

ran Africa. Sustained education, peer involvement, and targeted outreach remain critical to overcoming barriers and maximizing the impact of CAB-LA.

EP0818

"Self-testing is good, but you can lose your life if your heart is not strong": community perspectives on HIV self-testing for adolescent girls and young women in northern Uganda

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Background: Despite progress toward the UNAIDS 95-95-95 targets, HIV testing among adolescent girls and young women (AGYW) remains low, with only 56% reporting testing in the past 12 months, according to the most recent Uganda demographic health survey. While HIV self-testing (HIVST) has the potential to address key barriers, little is known about factors influencing its uptake among AGYW in Northern Uganda.

This study explored community perspectives on HIVST to inform a peer-led, community health worker (CHW)-facilitated HIVST model for AGYW in rural Northern Uganda.

Methods: This qualitative study was conducted from September to October 2024 among community stakeholders in five sub-counties in Omoro District, Northern Uganda. We purposively recruited 48 AGYW and 33 CHWs for 10 focus group discussions (FGDs), each with 5–10 participants, facilitated by two trained research assistants in Acholi and Lango languages. We also conducted in-depth interviews with 13 local council leaders. All recordings were translated and transcribed verbatim for inductive thematic analysis in *Atlas.ti.*

Results: Six themes emerged from the FGDs with AGYW: perceived benefits of HIVST, concerns about HIVST, sociocultural influences, barriers, facilitators, and suggestions for improvement. AGYW valued the convenience and confidentiality of HIVST but were concerned about accuracy, emotional distress that may be triggered, and potential judgment on promiscuity or infidelity from parents and spouses. They suggested training, improved access, additional support resources, follow-up options, and community education. CHWs recommended affordable kits, peer involvement, and integration with existing health services, while local council leaders emphasized community mobilization, culturally tailored education, and utilization of trusted networks (such as churches and schools) to promote testing and address post-test challenges.

Conclusions: HIVST has the potential to increase community-level coverage of HIV testing due to its convenience and confidentiality, but concerns about access, accuracy, capability, emotional impact, and societal judgment could hinder its uptake among AGYW in Northern Uganda. Strengthening community engagement, providing robust support systems, and offering culturally tailored education and follow-up are crucial for successful implementation.

Further research is needed to refine community-led HIVST implementation strategies in resource-limited settings, focusing on its sustainability and potential for future scale-up.

Implementation research to scale up HIV testing

EP0819

Connecting priority populations to HIV testing services through online solutions in Ukraine

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Background: The ongoing Russian–Ukraine war has severely reduced access for priority populations (PPs) in HIV prevention and treatment programs due to the destruction of health care facilities, displacement of medical personnel and citizens, and reduced demand by PPs. Digital approaches including online marketing and reservation platforms may be viable in areas with limited ability for physical outreach and services.

Description: Funded by USAID/PEPFAR and implemented by Pact, FHI 360, AIDS Foundation East West, and local nongovernmental organizations, the Community Action for HIV Control project piloted GoPoruch, Ukraine's first online service booking platform for HIV testing and prevention, in August–September 2024. GoPoruch provides automated appointment reminders and follow-up messages for missed appointments via SMS.

The project launched a digital marketing campaign to promote GoPoruch across social media and Google among groups vulnerable to HIV acquisition.

Lessons learned: The marketing campaign generated 4 million impressions and over 51,000 ad clicks, with an average cost-per-click of US$0.09 in the initial one-month pilot. Parallel advertising campaigns tailored to different audiences vulnerable to HIV resulted in a click-through rate of 3% and 436 booked services, including HIV and sexually transmitted diseases testing and counseling.

The pilot achieved a 63% appointment arrival rate, with a yield of 2.5% HIV-positive cases. This case finding exceeded the national yield of 0.5% in 2024 and is aligned with PP-specific case-finding rates of 2.7% in 2023. GoPoruch bookings resulted in 84% new clients (i.e., not previously engaged in HIV prevention services), compared to 73% new clients engaged through differentiated service delivery (DSD) models during the same period. GoPoruch ap-

pointments outperformed DSD models in reaching new clients in each of the three project regions: Odesa (100% vs. 93%), Lviv (76% vs. 60%), and Kyiv (75% vs. 65%).

Conclusions/Next steps: The GoPoruch pilot demonstrated that online marketing campaigns and service bookings can complement DSD models by engaging new clients from populations most vulnerable to HIV acquisition. GoPoruch and other digital tools may be important approaches to close service gaps when physical outreach is challenging and should be investigated further.

EP0820

Transforming retesting into Re-engagement: a success strategy in the Alto-Mae Health Facility, Maputo – Mozambique, 2024

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Background: HIV retesting provides an opportunity to re-engage people who are aware of their HIV status but who discontinued or never initiated antiretroviral treatment (ART). In Maputo City, the proportion of people retested substantially increased after the centralization of health facility electronic patient tracking system (EPTS) in 2024. Retesting facilitated the identification of people who previously took ART at any healthcare facility in Maputo.

To ensure a non-judgmental environment and facilitate re-engagement of people retested, the Center for Collaboration in Health, in coordination with health authorities, piloted an approach that used follow-up flowcharts and welcoming messages.

Description: The pilot was implemented between July and September 2024 in the Alto-Maé Health Facility. All clients with an HIV-positive test result were cross-checked in the EPTS database. Any person identified as retested, received welcoming and supportive messages. Clients who wished to continue treatment were asked to select their health facility of choice.

For those choosing to continue care at the Alto-Maé Health Facility, a notification was sent to their previous follow-up site to update their retention status and their medical chart was printed from the system. A notification was also sent to clinics for clients that selected to receive care at a different facility.

Lessons learned: Of 199 people testing positive for HIV, 22% were retested (n=43/199). Among the 43 people retested, 53% tested in outpatient consultations, 100% adults, and 65% were female.

The majority, 84% (n=36/43), were lost to follow-up (LTFU) and 16% (n=7/43) were active in treatment. Among those LTFU, 86% (n=31/36) were successfully re-engaged in care and treatment.

The centralized database, along with the structured flowchart and welcoming messaging, facilitated re-engagement and provided clear guidelines for healthcare providers on follow-up procedures for clients retested.

Conclusions/Next steps: The implementation of the approach was an effective strategy to re-engage people LTFU into care in Maputo. Based on this experience, it may be worth considering expanding implementation of this strategy to other health facilities.

EP0821

Enhancing access to HIV testing services and HIV case finding among key populations in Myanmar through innovative testing modalities

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Background: HIV testing coverage among key populations in Myanmar is suboptimal, with 31% among MSM&TGW, 41% among FSW, and 28% among PWID. Despite the challenges posed by the military coup and escalating conflicts, the HIV/TB Agency, Information, and Services (AIS) Activity, with the support of USAID/PEPFAR, remains steadfast in its commitment to prioritize HIV Testing Services (HTS) among key populations in five states and regions of Myanmar. AIS and its implementing partners have been instrumental in providing HTS using various innovative modalities, including facility-based, community-based, Provider Initiated Testing and Counseling (PITC), index, and social network testing, to bridge the gap of HTS among key populations.

Description: Facility-based HTS is conducted at Key Population Service Centers (KPSCs), focusing on key populations referred by Peer Educators through online and physical outreach. Community-based HTS is carried out at hotspots and hard-to-reach areas in the field by mobile HTS teams and peer educators trained for Community-Based HIV Screening (CBS). Provider-initiated testing and counseling (PITC) is facilitated at KP-friendly clinics of Private General Practitioners.

Index testing, which uses assisted and voluntary partner notification, and Social Network Testing, which involves recruiting Peer Mobilizers among service users to refer clients from their social networks, are also part of the innovative modalities used.

Lessons learned: From October 2022 to September 2024, AIS and its partners provided HIV testing services using various modalities. Facility-based testing screened 55,611 clients, identifying 4,711 positive cases, resulting in an 8% positivity rate. Community-based testing reached 35,044 individuals, with 1,997 positive cases identified and a 6% positivity rate. PITC, with GPs, tested 5,627 clients, finding 218 positive cases with a 4% positivity rate. Index testing identified 1,557 HIV-positive cases among 5,167 individuals, reflecting a 30% positivity rate. Social network testing resulted in 208 HIV-positive cases among 3,123 individuals, with a 7% positivity rate.

Conclusions/Next steps: Innovative testing modalities have significantly improved access to HTS and HIV case findings among key populations during the current conflict in high-burden HIV areas. AIS will continue to undertake qualitative and quantitative reviews of these modal-

ities and ensure that findings drive program adaptations responsive to the changing needs of affected communities in unstable operational contexts.

EP0822

Assessing the effectiveness of community-based TB/HIV testing in improving TB/HIV case finding: case study in North-West Nigeria

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Background: Tuberculosis (TB) and HIV co-infections are significant contributors to maternal and neonatal morbidity in Sub-Saharan Africa, with over 50% of global TB/HIV co-infections occurring in the region. Approximately 30-40% of TB patients in Africa are co-infected with HIV, and pregnant women living with HIV face a heightened risk of developing TB, increasing maternal mortality (UNAIDS, 2023). In Nigeria, which has the second-largest HIV epidemic globally, an estimated 1.8 million people live with HIV, with 3-4% prevalence among pregnant women. Despite efforts, Nigeria still accounts for 12-15% of global mother-to-child transmission (MTCT) cases. Poor ANC attendance—affecting 20-30% of pregnant women in Sub-Saharan Africa—limits early detection and treatment (UNAIDS/NACA, 2023). This study aims to evaluate the impact of community-based TB/HIV testing in North-West Nigeria in addressing these challenges.
Methods: A mixed-methods study conducted in Kebbi, Sokoto, and Zamfara States (January–October 2024) involved testing 5,768 pregnant women using rapid diagnostic tools by trained community TB/HIV workers. Quantitative data on diagnostic yield and treatment initiation were analyzed using Microsoft excel, while qualitative insights were obtained through interviews with patients and healthcare workers. Data were benchmarked against the 2024 WHO TB/HIV Africa report and Nigeria-specific health indicators.
Results: Among the 5,768 pregnant women screened, (634)11% were diagnosed with HIV, and (260)4.5% tested positive for active TB. Co-infections were observed in (63)10% of women Living with HIV. Early detection facilitated treatment initiation for 95% of HIV-positive and 90% of TB-positive women within two weeks of diagnosis. Community engagement led to a 35% increase in ANC attendance, while qualitative findings emphasized reduced stigma and increased trust in healthcare services as critical drivers of success.
Conclusions: Community-based TB/HIV testing is an effective strategy for improving TB/HIV case finding among pregnant women in high-burden areas. Early diagnosis and treatment will reduce adverse outcomes, aligning with WHO's integrated TB/HIV care recommendations. Scaling up similar programs nationally, supported by capacity building and robust monitoring systems, can further reduce TB/HIV-related maternal deaths and advance Nigeria's goal of eliminating MTCT by 2030.

EP0823

Enhancing pediatric HIV screening coverage in Côte d'Ivoire and Togo: preliminary results from an intervention led by community associations - The RaDAR project

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Background: Provider-initiated HIV testing is recommended in children, but is underutilized in West Africa, particularly in primary care. This results in 73% missed opportunities for HIV diagnosis in children living with HIV in West Africa. The RaDAR project aimed to evaluate community association involvement and the introduction of a simple targeting tool in outpatient care to improve the identification of HIV in children <15 years in Côte d'Ivoire and Togo.
Methods: The intervention deployed community agents from three associations (EVT and ACS in Togo, CSAS in Côte d'Ivoire) supporting counseling and testing for children attending 18 primary care centers (6/association) and answering "yes" to at least one of six questions from a tailored targeting tool:
i. Parent's deceased,
ii. Parents positive HIV status,
iii. Hospitalization history,
iv. Recurrent skin problems,
v. Chronic health issues, and;
vi. Growth disorders.
The quasi-experimental implementation design was one week of intervention and seven weeks of non-intervention. We report intervention and non-intervention HIV testing coverages in children <15 years, number of positive diag-

nosis, and number of tests needed to identify one child living with HIV. Incidence rate ratios (IRR) of HIV-positive tests in the intervention compared to non-intervention period were derived using a mixed-effects zero-inflated negative binomial regression model accounting for possible temporal clustering.

Results: Between August 2023 - December 2024, 56,676 attended outpatient care over the non-intervention period, of whom 1730 were tested for HIV; testing covering was 3% (95%CI:2.9%-3.2%). During the intervention period, 6,940 children were seen of whom 3217 were tested for HIV increasing the testing coverage to 46.4% (95%CI:45.2-47.5). The number of HIV diagnosis increased from two in the non-intervention period to 11 in the intervention period, with fewer tests needed per case detection (807vs283). Adjusted for site, number of tests, and year period, the probability of HIV-positive case detection was 20 times higher during the intervention period (aIRR = 20.5; 95%CI:[6.0-73.0]).

Conclusions: We report a significant benefit from community associations' involvement in increasing pediatric HIV testing through routine outpatient care in West Africa. These preliminary results should be interpreted with caution, considering the specific context of each country, qualitative, and health economic evaluation.

EP0825

Lessons learnt from providing multilingual mail-in HIV testing for international migrants in Japan

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Background: International migrants account for nearly 20% of people who were newly diagnosed with HIV in Japan. Their access to HIV testing needs to be improved urgently. Public health centers offer free HIV testing, but mostly in Japanese. Mail-in HIV testing (MiHIV) using filter paper blood is commercially available, but only in Japanese. Our previous research suggested that international migrants had a high demand for MiHIV. This project examined the feasibility of providing multilingual MiHIV in Japan.

Description: We established a website for MiHIV in Japanese, English, Chinese, Vietnamese, Portuguese, and Nepali, by which applicants chose their preferred method to receive the MiHIV package (at the distribution meetings, the nearest post office, or home). MiHIV package contains a test kit, instruction manual, test registration request letter, and return envelope. The website also has a video on how to use the test kit. We asked the applicants to register the kit ID, email address, and password on the website before sending the sample to the laboratory. The test results (negative, positive, or unmeasurable) were available to the test takers at the URL sent to the registered email address. We strongly recommended that those who tested positive go to the nearest medical institution for confirmatory tests. We also provided on-line consultations. MiHIV packages were distributed free of charge. We advertised the project via SNS and migrant communities for 3 months from October 2024.

Lessons learned: Of the 163 applicants from 33 nationalities, 85.3% were male, and 87.7% were in their 20s/30s. In total, 148 packages were distributed, 82% of which were delivered to their homes. Eighty-one samples (54.7%) were returned to the laboratory, but 8 of them were unregistered. Of the 72 cases whose test results already processed, 65 were negative, two were unmeasurable, and five were positive.

Conclusions/Next steps: The project demonstrated the feasibility of providing multilingual MiHIV in Japan. The high proportion of positive cases suggests that MiHIV can reach out to those at higher risk. Further studies are required to improve the return rate and strengthen post-test support.

EP0826

Preference for mail-in HIV testing among international migrants in Japan

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Background: About 3.6 million international migrants are registered to live in Japan, which is around 3% of the population. Nearly 20% of people who were newly diagnosed of HIV in Japan were international migrants. Meanwhile, HIV self-testing is not yet approved, and existing free HIV testing services available at public health centers (PHCs) are often delivered only in Japanese. Although not officially part of the national testing system, a mail-in HIV testing (MiHIV) kit that uses blood spots on filter paper is available commercially. Utilization of this service remains low.

Our study aimed to understand the preferences for MiHIV service design among international migrants in Japan through a discrete choice experiment (DCE).

Methods: An online multilingual DCE survey was implemented in 2024. Based on a literature review and a pilot study, three attributes were included in the DCE choice sets: location to receive the testing kit (PHCs, drug stores, convenient stores, home), availability of multilingual support, and cost. Participants were presented two hypothetical scenarios of MiHIV testing service that varied across the three attributes and asked to indicate their preferred option. The questionnaire was available in Japanese, English, Chinese, Vietnamese, Korean, Nepali, and Portuguese. The participants were recruited via SNS and migrant communities. Data were analyzed using a conditional logistic regression model.

Results: Of 123 participants from 29 nationalities, 82% were male, with an average age of 32.8 (±9.0) years. All attributes were found significantly related to the choice

of MiHIV design. Compared to the 24.9% who preferred the PHC model (pick up at a PHC, with support in Japanese, free of charge) that was trialed with Japanese people in 2023, 57.1% preferred the home model (mailed to home, with support in the tester's native language, free of charge), and 18% preferred neither. The estimated marginal willingness-to-pay for the home model was US$6.5.
Conclusions: This study is the first of its kind in Japan to use DCE to elicit the preferences among international migrants regarding MiHIV. The findings should be incorporated into the design of a multilingual MiHIV program in the future.

EP0827

Innovative approaches to community-based HIV testing services among pregnant women using community TB/HIV workers and mentor mothers: an experience from Oyo state, Southwest, Nigeria

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Background: Early diagnosis and treatment of HIV in pregnant women are critical for preventing mother-to-child transmission (PMTCT) and achieving better health outcomes. However, in many high-burden, resource-limited settings, gaps in service delivery and access remain a challenge.
To address these barriers, an innovative community-based HIV testing model leveraging Community TB/HIV Workers (CTHWs) and Mentor Mothers was implemented in Southwest Nigeria
Description: Between January 2024 and December 2024, this intervention was introduced in under-served wards and communities in Oyo state. Community Volunteers and CTHWs conducted routine household visits and integrated TB/HIV education, and testing services for pregnant women. Mentor Mothers provided peer counselling, psychosocial support, and linkage to care for newly diagnosed women. Health education sessions were conducted at antenatal care centres and community events to improve awareness and reduce stigma. Data was collected and analysed using Microsoft Excel.
Lessons learned: The intervention identified and screened 30,000 pregnant women using the appropriate eligibility criteria. 96% accepted HIV testing. Among them, 72 pregnant women were identified as living with HIV and were successfully linked to antiretroviral therapy (ART). EID samples were collected and tested for the infants.
Retention in PMTCT programs at six months improved from 62% to 85%, supported by Mentor Mothers' peer counselling and follow-ups.
Community engagement activities led to a 30% increase in antenatal care attendance, with the barriers related to stigma significantly reduced, improving access and acceptance of services.
Conclusions/Next steps: The integration of CTHWs and Mentor Mothers into community-based HIV testing services has proven effective in increasing uptake, reducing stigma, and improving PMTCT program retention among pregnant women. This model demonstrates the importance of community-driven, person-centred approaches in addressing access and service delivery challenges. It offers a scalable solution for high-burden regions aiming to reduce mother-to-child transmission and improve maternal and child health outcomes.

EP0828

"Casting a safety net in unfamiliar waters"; expanding HIV testing and counselling among pregnant women in unconventional settings in the community. The Akwa Ibom State experience

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Background: Pregnant women (PW) are vulnerable to acquiring Human Immunodeficiency Virus (HIV). Nigeria has one of the highest burdens of HIV globally, and PW living with HIV likely accounts for a significant proportion of women living with HIV, considering the country's high fertility rate and growing population. HIV testing of PW in unconventional settings such as traditional birth attendants (TBAs) homes and congregational settings can be an effective way to increase access to HIV testing. However, this component of community prevention of vertical transmission of HIV has often been underutilized.
We aim to evaluate the effectiveness of expanding HIV testing and counselling among PW receiving care in unconventional settings in the community.
Description: KNCV Nigeria through the Institute of Human Virology, Nigeria (IHVN) has commenced implementing the Community Public Private Mix (C-PPM) project across all 31 Local Government Areas in Akwa Ibom State. The project spans from January 2024 to December 2026, prioritizing pregnant women receiving antenatal care across all unconventional settings utilizing the house-to-house (H2H) approach and targeted screening in TBA homes. Indigenous community volunteers, mentor mothers, and community testing workers were engaged, trained, and mobilized into teams to provide comprehensive HIV testing and counselling services in the community.
Lessons learned: Between March 2024 to November 2024, a total of 11847 PW (10716 from H2H, 1131 from TBA homes) were reached in the community and screened using the HIV screening checklist. 9343 PW (8791 from H2H, 552 from TBA homes) were eligible and tested for HIV. 38 PW (33 from H2H, 5 from TBA homes) tested positive for HIV and were referred to hub facilities for treatment,

yielding a positivity rate of 0.4%. H2H contributed the highest number of PW reached and positives detected, at 90% and 87%, compared to 10% and 13% in TBA homes respectively.

Conclusions/Next steps: Expanding HIV testing and counselling services to unconventional settings through an H2H approach has proven to be effective in reaching PW who might otherwise be neglected. This intervention demonstrates the importance of community-based strategies in increasing access to HIV testing. Therefore, scaling up H2H approach can significantly contribute to reducing the vertical transmission of HIV.

EP0829

HIV index case testing and partner notification by way of self-testing: sealing the gap to epidemic control in Zambia

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Background: Robust approaches to help attain the 95-95-95 UNAIDS targets and HIV epidemic control have increasingly become far-fetched. Through a randomized-clinical trial, we investigated the extent to which index case testing and partner notification by way of oral HIV self-testing compared to the traditional/conventional methods of provider and client referral in enabling HIV testing among undisclosed sexual partners in Zambia.

Methods: A cluster-randomized-clinical trial was conducted. The intervention arm respondents were given two oral HIV self-testing (ST) kits to use with their undisclosed-status-sexual partner. Control group of respondents were either allocated to provider referral (PR) or client referral (CR). All respondents were availed counselling around benefits of having their partners tested. 532 (223 males and 309 females) with 177 (79 males and 98 females) were randomized to the intervention arm while 355 to the control: 173 (65 males and 107 females) in PR, and 182 (78 males and 104 females) in CR.

Results: Of the 177 respondents in the intervention arm, 77.4%(137) facilitated for their partners to be tested compared to 71.5%(254) in the control arm. In the intervention arm, 44.6% (79) facilitated for their partners to be tested at Day Zero compared to 32.1% (114) in the control arm. Participants in the intervention arm were 1.23 times more likely to facilitate for their partner to be tested by Day Three compared to PR (OR=1.23; P=0.012, 95% CI) and 1.225 times more likely compared to CR (OR=1.225; P=0.015 at 95% CI). Day Seven, 80.5%(143) in the intervention arm facilitated for their partners to be tested compared to 74.4%(264) in the control arm. At Day14 - 67.2%(119) in the intervention arm compared to 56.9%(202) in the control arm. The intervention arm also recorded the lowest maximum period taken to have partner tested (27 days) compared to 130 days in the control arm. There was no record of intimate partner violence.

Conclusions: Index case testing and partner notification by way of self-testing is safe and non-inferior to that by way of the traditional/conventional provider and client referral approaches. It holds potential for a significant role in enabling efficient identification of undiagnosed partners in sexual relationships.

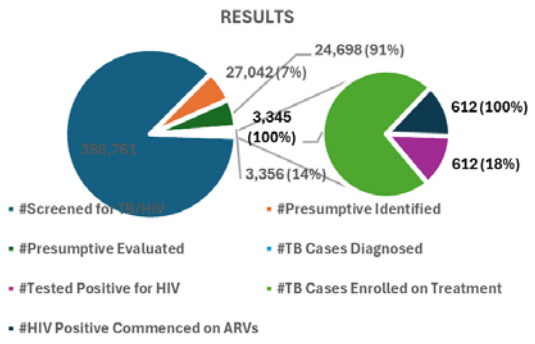
EP0830

Improving TB/HIV case detection in public health facilities through collaborative efforts - using two-way-referral system: The Kano State Experience

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Background: KNCV Nigeria through the USAID TB LON Region 1&2 Project is conducting facility-based TB screening in public health facilities in Kano state. The co-location of USAID TB and HIV implementation partners in 9 selected public health facilities that has both ART and DOTS units, avails the opportunity to screen for TB and HIV in the two service delivery units to improve TB/HIV case detection in the state.

Methods: TB screeners and HIV case managers deployed in the 9 co-located facilities were trained through competency-based training modules to equip them with the pre-requisite knowledge of both TB/HIV screening. TB screeners will screen all participants for TB/HIV signs and symptoms and Identified presumptive for TB and diagnosed TB cases are tested for HIV at the spot and diagnosed HIV positive cases - escorted to ART site to be documented and initiated on ARVs – while on the other hand HIV facility case managers conduct TB screening alongside HIV testing/counselling at the ART unit and identified presumptive TB escorted to DOTS units for documentation and collection of sputum sample for TB evaluation.



Results: Within a period of 12 months (October 2023 – September 2024) the following were achieve:

- A total of 398,761 facility attendees were screened for both TB and HIV at both DOTS/ART units;
- 27,042 (7%) presumptive TB were identified,
- 24,698 (91%) were evaluated for TB and tested for HIV,
- 3,356 (14%) TB cases were diagnosed,

- and 612 (18%) tested positive for HIV,
- 3,345 (100%) TB cases were enrolled on TB treatment, and;
- 612 (100%) HIV Positive patients commenced on ARVs.

Conclusions: The study results demonstrated that establishing a good working relationship between TB and HIV program partners within a given health facility can greatly improve TB/HIV case findings and thus help in addressing the dual burden of TB and HIV in the country.

EP0831

Barriers and facilitators to HIV self-testing: an evaluation of HIV self-testing innovation in Centenary District, 2023

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Background: Testing remains a key entry point to HIV prevention. Inequalities still exist in HIV testing and prevention services particularly among men, adolescents and key populations. HIV self-testing (HIVST) is an innovation introduced to facilitate closure of status awareness gaps among these groups.

We investigated reasons for low uptake of HIVST and HIV testing preferences in Centenary district of Zimbabwe which reported an HIVST coverage of 5% against target.

Methods: A cross-sectional study coupled with the process-outcome evaluation of program evaluation was conducted. Forty healthcare workers (HCWs), 250 clients, were interviewed, in addition of HIVST registers and monthly return forms reviews utilizing questionnaires, interview guide and checklists respectively to assess knowledge, availability of inputs, reasons for low uptake and HIV testing choices.

Overall knowledge was measured using a 3-point Likert scale. Factors associated with choice of HIV testing method were determined using backward logistic regression for covariate (p value<0.25).

Results: Eleven health facilities, 40 HCWs and 250 health service clients were included in the study. Majority 148/250 (59.2%) of clients were females while the most common age group was the 25-39 years with 97/250 (38.8%) participants and the adolescent group comprised 33/250 (13.2%) participants.

Adolescents had the least proportion 3/23 (13%) of those who had heard about HIVST, and where 70% (OR:0.3 95%CI; 0.1-0.7) less likely to use HIVST over conventional HIV testing (CHIVT). Males were 3(aOR:3.0 95%CI; 1.6-5.5) times likely to choose HIVST over CHIVT.

Those who preferred oral fluid-based (ORF) HIVST over blood-based (BB) HIVST and those who knew where to get HIVST kits were 4 (aOR:3.7 95%CI; 2.0-6.7) and 5(aOR:4.8 95%CI; 1.8-19.4) times likely to utilize HIVST over CHIVT respectively. Thirty-one (78%) HCWs preferred offering CHIVT to HIVST. Overall, 187/250 (75%) clients had poor HIVST knowledge. No health facility 0/11 had IEC material on HIVST, community HIVST distribution and had distributed kits to key populations.

Conclusions: Clients' preferences possibly affected by their knowledge, influenced uptake of HIVST. Limited health promotion, under-utilization of community distributors and health worker barrier contributed to low HIVST uptake. Tailored educational programs especially for adolescents and peer distributors can improve uptake of HIVST.

EP0832

Impact of men's clinics on HIV testing and linkage to treatment in men aged 15 yrs and above from 2019-2023: a case study of men's clinics in Lusaka District

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Background: In Zambia, men's health outcomes are worse than women's due to poor health-seeking behavior. This gender disparity has been overlooked by policymakers and healthcare providers. The Zambia Population-Based HIV Impact Assessment (ZAMPHIA 2021) revealed significant age and gender gaps in HIV testing, knowledge, and treatment linkage. Men's clinics have been established as a differentiated service delivery model to increase men's engagement with HIV services.

Methods: The Centre for Infectious Disease Research in Zambia (CIDRZ) implemented male-friendly services in 13 facilities in Lusaka district, Zambia. These services were provided by dedicated male providers in most cases either by dedicating a specific male consultation room or independent clinic with its own consultation, registry, dispensary, counseling, and male circumcision room with support from CDC, WHO and a Global Fund catalytic fund. We measured HIV testing uptake and linkage to treatment in these sites from Jan 2019 to Dec 2023.

Results: We found a significant increase in HIV testing services for men aged 15 years and above, with 1,143 men tested between January and March 2019, steadily rising over time to 31,826 men tested between October and December 2023. During the same period, 178 positive cases were identified in early 2019, all of whom (100%) were successfully linked to treatment, while in the latter period, 1,891 positives were identified, with 1,818 (96%) linked to treatment.

Conclusions: Men's clinics in Lusaka district have increased access to HIV Testing and care,and improved linkage to treatment among men. These Clinics offer special focus on sexual reproductive health and HIV Testing. Future research is required to assess impact of Men's Clinics on health seeking behaviours of men.

EP0833

Enhanced index testing process improves HIV case identification among index contacts: case study for Mponela Rural Hospital, Dowa, Malawi

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Background: The 2024 Naomi Estimates for Dowa District indicate 1,196 PLHIV remain undiagnosed. Index testing is among the effective strategies for HIV case finding. Despite this, a decline in quarterly index testing coverage from 82% to 69% in FY2022 was noted at Mponela Rural Hospital in Dowa District. Continuous quality improvement (CQI) project was launched with the goal of increasing index testing coverage from 69% to 95% between January 2023 and March 2024.
Description: The facility analyzed index testing coverage data (percentage of index contacts tested [HTS_INDEX] against contacts elicited) for all ages between October 2021 and December 2022 (pre-CQI) and used fishbone diagram to analyze the root causes. The findings guided implementation of prioritized countermeasures and changes through Plan-Do-Study-Act cycles.
Cycle 1 interventions included contact elicitation during pre-test counseling session, weekly data review meetings and mentorship.
Cycle 2 focused on improved address identification, optimized use of transport means for contact tracing, accelerated testing of contacts within 3 days of elicitation in the community.
Data was extracted from DATIM to monitor performance trends for pre-CQI baseline period, throughout the 5 quarters of implementation and 2 quarters post-implementation.
Lessons learned: Overall testing of index contacts increased from 500 (pre-CQI) to 624 (CQI period). The quarterly index testing coverage increased from pre-CQI baseline of 69% (Oct – Dec 2022) to 99% (Jan – Mar 2024) during CQI period. The trend was similar between male and female index contacts and sustained at 95% for 2 quarters post-CQI. The overall number of HIV positives identified increased from 139 (28% positivity in pre-CQI) to 158 (25% in CQI period) with higher mean positivity among males (29%) compared to females (22%).



Figure. CQI project increases index testing coverage at Mponela RH.

Conclusions/Next steps: The enhanced index testing process improved efficiency of HIV case finding especially for males. Intensified efforts are encouraged to reach undiagnosed PLHIV especially men as means to attain epidemic control.

EP0834

Tracking, engaging & linking with care of blood donors tested HIV+ after routine blood screening – a first of its kind demonstration project in Pakistan by APLHIV

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Background: With 300,000 people living with HIV only 23% know their HIV status in Pakistan as per UNAIDS. There is dire need to scale up HIV testing and ART linkages via innovative approaches to ensure 95-95-95 target achievement. With 170 public and 450+ private blood banks across Pakistan, there is no mechanism to link persons tested HIV+ with HIV treatment. These PLHIV may be unknowingly contributing to the increasing prevalence of HIV in Pakistan.
A project to identify HIV+ persons screened via blood bank located at the largest tertiary care hospital in the capital Islamabad was carried out with the aim to identify and link the persons tested HIV+ with ART.
Description: Once data was received via blood bank the blood donors were approached telephonically by APLHIV based Psychologist with vast experience of working with PLHIV & KPs. Without revealing their HIV results the Psychologist encouraged them to visit the nearest ART facility for re-testing. Generic reasons were put forward to encourage these persons to take confirmatory test at ART Center. Re-Confirmed HIV+ cases were initiated on ART and regular counseling was provided via Psychologist to ensure that newly diagnosed PLHIV come to term with their HIV status. Linkages were also made with community/peer support groups of APLHIV to provide ongoing peer support to ensure adherence. The newly confirmed PLHIV were encouraged to get spouses/partners tested and Psychosocial services were also provided to these family members.
Lessons learned: A dataset of 198 HIV+ blood donors was shared with APLHIV. Contact was made with 177 persons and all were re-tested and started ARVs. 147 Spouses & children were also tested and 01 spouse and 01 Child were confirmed HIV+ and brought on ARVs. Thus in a short span of 6 months 179 new people were brought on ART.
Conclusions/Next steps: Blood banks can provide vital support to scale up HIV testing in a resource limited setting like Pakistan. It is recommended that linkages be made with blood banks across the country as a model of differentiated HIV testing in order to successfully achieve the first of 95-95-95 targets and close gaps in HIV treatment coverage and outcomes.

EP0835

Reducing turnaround time for early infant diagnosis: the impact of point-of-care testing using GeneXpert in Nigeria

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Background: Early Infant Diagnosis (EID) plays a pivotal role in the timely identification and initiation of antiretroviral therapy (ART) for HIV-exposed infants, which is critical to improving survival rates and health outcomes. Despite its importance, conventional laboratory-based methods for EID are often plagued by logistical challenges, including sample transportation delays, batching requirements, and inefficiencies in results dissemination. These issues lead to prolonged turnaround times (TAT), which can delay critical clinical decisions and negatively impact health outcomes.

Objective: To evaluate the impact of Point-of-Care Testing (POCT) using GeneXpert technology at selected sites on the TAT for EID in Nigeria, highlighting its potential to accelerate ART initiation and improve healthcare delivery for HIV-positive infants.

Description: A retrospective analysis was conducted using EID data collected from **38** healthcare facilities across Nigeria, spanning both urban and rural settings. Data was stratified to compare TAT between conventional centralized laboratory testing and GeneXpert-based POCT. Key metrics analyzed included the median TAT, ART initiation rates within recommended timelines, and operational feasibility of GeneXpert integration

Lessons learned: The implementation of integrated EID testing on the GeneXpert platform revealed that the median TAT for EID using conventional methods was 8 to 12weeks, whereas between November 2023 and March 2024 the TAT for GeneXpert-based POCT was reduced to 24 to 72 hours. 1,063 infants were tested using GeneXpert devices across 38 sites in 21 states in Nigeria. Of the 64 infants diagnosed as HIV-positive, 100% were successfully linked to ART.

Healthcare facilities utilizing POCT reported a higher proportion of infants initiating ART within the recommended timeframe, with notable improvements in care delivery efficiency and reduced loss to follow-up.

The operational deployment of GeneXpert in decentralized settings demonstrated feasibility, though challenges related to infrastructure and human resource capacity were identified.

Conclusions/Next steps: GeneXpert-based POCT represents a transformative approach to reducing TAT for EID in Nigeria. The successful implementation across a wide geographic area underscores the potential of POCT to close critical gaps in the care continuum, improve survival rates for HIV-exposed infants, and accelerate progress toward achieving the UNAIDS 95-95-95 targets in Nigeria.

EP0836

Expanding innovative self-testing delivery options in Ukraine through a social media-driven information campaign engaging social medial influencers

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Background: Due to limited access to medical services caused by Russia's full-scale aggression in Ukraine, the USAID PATH-led REACH 95 project introduced the innovative "Test Yourself" chatbot into messenger app on September 4, 2024. Leading up to World AIDS Day, the project launched a large-scale information campaign, engaging social media influencers to promote HIV self-testing services and raise awareness about HIV prevention. Because ~74% of registered HIV cases in Ukraine (2023) are linked to unprotected sexual contact, the campaign aimed to reach sexually active people.

Description: REACH 95's information campaign used creative videos and stories integrated into the social media platforms of 14 Ukrainian influencers, including representatives of key populations.

The campaign had two main objectives:

1. To emphasize the importance of condom use as a barrier method for HIV prevention;
2. To encourage people who are unaware of their HIV status or have had risky sexual contact with more than one partner in the past 12 months to order an HIV self-test through the "Test Yourself" chatbot.

The chatbot allows individuals to order "safe boxes" which include HIV self-test kits, condoms, and lubricants to their nearest post office for at-home use, as well as receive phone consultations by a social worker.

Lessons learned: The campaign reached nearly 2,750,000 users, with a strong engagement rate and significant interest among the targeted audiences. Following the launch of the campaign in December, 4,174 clients placed orders for safe boxes through the chatbot.

Orders for the safe boxes in December were 70 times higher than in October or November. As a result, the initial outreach plan was exceeded by 123%, and there was a high demand for HIV self-tests kits, despite the substantial stigma and widespread stereotypes about HIV among Ukrainians.

Conclusions/Next steps: The information campaign achieved very high reach and engagement, capturing significant interest among the targeted audience. There is a demand for HIV testing services in Ukraine.

Considering that only 77% of people living with HIV in Ukraine are aware of their status, similar information campaigns could serve as an effective tool to increase HIV testing and reduce HIV prevalence.

EP0837

Deploying various innovative HIV self-testing (HIVST) distribution approaches in Ukraine

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Background: Ukraine has the second largest HIV epidemic in Eastern Europe, concentrated among key populations, with an HIV incidence of 28.4 per 100,000 population. HIV self-testing (HIVST) is a key approach to improve the reach of HIV testing services, particularly among vulnerable and hidden key populations and their partners. The PATH-led, USAID-funded REACH 95 project introduced innovative HIVST distribution approaches at public health care facilities and communities in Ukraine to ensure continued access to HIV testing services (HTS) for both general and vulnerable population during the war. Before REACH 95, there was no access for HIVST at public health care facilities provided by medical staff.

Description: To prepare for HIVST implementation, REACH 95 developed an HIVST standard operating procedure, an HIV risk self-screening questionnaire, and an online chatbot called 'Test Yourself," produced test stickers with phone numbers for regional consultants whom a client can contact confidentially and free to discuss HIVST, and trained HIVST providers.

REACH 95 then began to implement HIVST distribution using oral HIV tests (OraQuick) through multiple channels: 268 project-supported health care facilities in 16 regions; 12 screening points (10 medical and 2 non-medical) in de-occupied Horodnyanska hromada in Chernihivska oblast with no previous access to HIV testing services; and REACH 95's online 'Test Youself' chatbot in Telegram messenger in 16 regions. HIVST services were provided following WHO 5 Cs recommendations.

Lessons learned: From July 1 to December 31, 2024, 16,699 HIVST kits were distributed to clients, of them 16,508 opted for unassisted HIVST and 356 clients received social worker's consultation and 26 reported their HIV-reactive results. 191 clients opt for assisted HIVST services, of them 2 received HIV-reactive results.

Conclusions/Next steps: Different HIVST approaches were effective to increase access to HTS for general and vulnerable populations. Offering clients the HIVST option at a venue of their choice (at health care facilities, via online ordering platform, at hromada's level via screening points) provides an opportunity for hidden and remote populations to access HTS, and therefore, increased testing coverage. There was a high degree of acceptability of HIVST among different population groups and under different testing circumstances.

EP0838

Reaching the 1st 95 in South Sudan - a program to optimize HIV case finding through a multi-strategy and data driven approaches in western and central Equatoria states, South Sudan

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Background: South Sudan remains in a serious humanitarian crisis which exacerbates the HIV Epidemic. With only 35% of the PLHIV identified, South Sudan is not on track to achieve the 95-95-95 UNAIDS targets by 2030. Targeting HIV testing services (HTS), fast-tracks the identification of PLHIV and addresses the HIV testing gap which might delay epidemic control.

We describe, aggregate, and synthesize targeted HIV testing models implemented by the Catholic Medical Mission (CMMB) in South Sudan amidst the complex emergency.

Description: Between October 2023 and September 2024, differentiated models of targeted HTS were implemented by the CMMB. The multi-strategy targeted testing offered modalities such as active index testing, HTS for clients in pediatric nutrition, tuberculosis and antenatal/labor/delivery clinics with the aim of optimizing testing volumes, improving efficiencies and increasing the positivity ratio under the complex emergency.

Lessons learned: Of the 201,510 HIV tests conducted 64% were women and 56% were older than 15 years. A total of 2,025 tested HIV positive, representing a yield of 1% and 1.1% among women and men respectively, across all age categories. Index testing registered the highest yield both at facility (6.0%) and community (4%) levels followed by the TB clinic, and all other modalities were 1% or below. Provider Initiated Testing and Counselling (PITC) in out-patient department had the highest number of clients tested, however, the yield was low.

Conclusions/Next steps: Although, the results are consistent with other settings which have asserted index contact testing as an effective model in identifying PLHIV; the findings provide a critical imperative insight into feasible targeted HTS models under complex emergencies.

PITC improves access to HTS, however, the yield is relatively low. Adapting a concise targeted testing package will increase the identification of PLHIV to enhance positivity yield and accelerate the attainment of the 1st 95 in a complex emergency environment.

EP0839

Assessing the impact of infant exposure screening on early infant diagnosis uptake

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Background: Nigeria is one of the countries with the highest pediatric HIV burden globally. In 2023, the Prevention of Mother-To-Child Transmission (PMTCT) coverage was 34% while the early infant diagnosis (EID) coverage was 18%; presenting a huge, missed opportunity within and outside of PMTCT. Access to EID outside the PMTCT cascade offers an opportunity to identify HIV Exposed Infants (HEIs) who have missed a testing milestone, link positive infants to care, and improve EID coverage.

Infant Exposure Screening (IES) and testing outside of the PMTCT setting is key to improving case-finding and detecting incident infections during pregnancy and breastfeeding.

Methods: In October 2023, over 700 healthcare workers (HCWs) were trained across 114 sites in 35+1 states on IES at AEPs, including immunization, inpatient, and outpatient clinics, to improve pediatric case finding and ART linkage. Participants included AEP focal persons, clinicians, lab personnel, and PMTCT focal persons. HCWs used a risk assessment tool to screen infants aged 0-2 years through their mothers at AEPs, identifying new or known HEIs who missed a testing milestone and linking positive infants to care. Infants identified as HEIs were referred for EID. Monitoring tools were deployed, and aggregate data was entered monthly for analysis and progress evaluation.

Results: By March 2024, 54,704 infants were screened, representing 60% of all children aged 0-2 years in attendance at the AEPs. Among these, 1,825 infants (3%) were identified as at risk for HIV and tested, with 131 testing positive, resulting in a 7% positivity yield and 100% linkage to care. Additionally, IES accounted for 90% of the total EID tests conducted for HIV-exposed infants, while the conventional PMTCT setting contributed 10%.

Conclusions: The implementation of IES in Nigeria has demonstrated significant potential in addressing the gaps in EID and improving pediatric HIV case finding.

Despite the low coverage of PMTCT and EID in the country, IES has expanded testing opportunities outside the PMTCT cascade, allowing for the identification of HEIs who may have missed critical testing milestones.

This highlights the need to adopt and scale up this strategy to improve EID coverage and enhance the overall health outcomes for infants in Nigeria.

EP0840

Accelerating the elimination of congenital syphilis through dual syphilis/HIV Rapid Diagnostic Testing in South Africa

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Background: South Africa faces challenges in eliminating congenital syphilis. Despite recent improvements in antenatal care where syphilis testing coverage increased from 63% to 89% and treatment coverage rose from 59% to 69% between April 2023 and September 2024, there are significant challenges persisting across provinces and districts.

These include inconsistent procurement of dual Syphilis/HIV Rapid Diagnostic Tests (RDTs) and the misalignment of benzathine penicillin G (BPG) supply chain, which prioritize hospitals over primary healthcare facilities. These systemic issues perpetuate health inequities and hinder efforts to eliminate congenital syphilis.

Description: This program was implemented across all nine provinces of South Africa, aiming to enhance the distribution and utilization of Dual Syphilis/HIV Rapid Diagnostic Test (RDTs). The study period spanned from April 2023 to September 2024. Activities included distributing dual RDTs, transitioning from lab-based testing facilities to point-of-care dual RDTs, training healthcare workers on proper test administration, and strengthening supply chain management to ensure the consistent availability of dual RDTs and BPG at Primary healthcare. Data on testing coverage, positivity rates, and treatment coverage were extracted from the District Health Information System (DHIS) for analysis.

Lessons learned: Analysis revealed challenges in syphilis management across provinces. The Eastern Cape achieved high testing coverage (88%) but lagged in treatment coverage (68%), indicating gaps in care linkage. KwaZulu-Natal demonstrated the highest treatment coverage (90%) but had a lower testing rate (86%). Limpopo faced the lowest treatment coverage (42%), despite moderate testing rates (85%).

These findings highlighted critical challenges, including supply chain inefficiencies such as inconsistent procurement of dual RDTs across provinces and the misdirection of BPG supplies to hospitals instead of primary healthcare facilities.

Additional challenges included insufficient training for healthcare workers, emphasizing the need to develop accessible online training programs to improve their capacity in syphilis testing and treatment.

Conclusions/Next steps: The findings underscore the importance of integrating testing and treatment strategies to address disparities in syphilis management. Strengthening supply chain mechanisms, expanding healthcare worker training, and implementing district specific public health campaigns are essential to improving care linkage and reducing Congenital Syphilis.

These strategies have potential to improve syphilis management and contribute to broader HIV prevention and treatment goals.

EP0841

From emergency to early intervention: systematic HIV screening and advanced HIV disease detection in Beira Central Hospital, Mozambique (2019-2024)

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Background: Traditionally, HIV testing has been limited to primary healthcare facilities, leaving a significant gap in hospital settings where individuals often present late and with severe complications of advanced HIV disease (AHD). To address the high AHD-related mortality, Médecins Sans Frontières (MSF) implemented a systematic HIV screening strategy at the emergency department (ED) observation room of Beira Central Hospital (BCH) in Mozambique.
Description: From 2018 to 2024, lay counsellors conducted HIV screening for clients admitted to the ED observation room, according to the Ministry of Health (MoH) protocols. This strategy aimed to minimise missed opportunities, providing an approach to identifying people living with HIV (PLHIV), including those with complications of advanced HIV disease (AHD). It focused on individuals unaware and aware of their serological status.
Lessons learned: During this period, 35,899 clients were admitted to the ED (52% male and 48% female). Of these, 96.8% (34,750) were screened for HIV, with 43.6% (15,160) testing positive and subsequently followed by MSF. Among those, 15.3% (2,322) were newly diagnosed, while 84.4% (12,799) were previously known to be seropositive. Notably, 56.7% of the new HIV infections and 54.2% of known HIV infection were diagnosed with AHD.
Among this population, there were approximately 270 HIV-related deaths (204.0 per 1,000) for newly diagnosed, while known HIV-positive individuals experienced about 1630 related deaths (235.0 per 1,000).
This strategy facilitates early ART initiation, diagnosis, prophylaxis, or treatment of opportunistic infections (OIs) and the opportunity to improve linkage to care for both new and known people with HIV infections. However, it relied on MSF lay counsellors for screening, a resource typically absent in hospital settings, potentially presenting a challenge for widespread implementation.
Conclusions/Next steps: In high HIV-burden settings, systematic HIV screening in hospitals is critical for reducing missed opportunities for diagnosis and care. As illustrated by the MSF strategy in BCH, this approach could significantly impact HIV care cascades.
To scale this strategy, integration into hospital protocols and leveraging existing staff, such as nurses, are needed to perform testing. This model shows potential for replication in similar high-burden settings, contributing to the UNAIDS 2030 goal.

EP0842

Periodic index case testing and partner notification in people living with HIV – an impeccable cog in the gear to HIV epidemic control

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Background: With over 90% of people living with HIV (PLHIV) already diagnosed in Zambia (MoH-ZAMPHIA, 2021), it has become increasingly difficult to reach the people that remain untested and undiagnosed. We embarked on a robust initiative to identify potentially untested new sexual partners to PLHIV.
Description: Between July and December 2025, Diligent Health Initiatives offered index case testing to clients in North-Western province of Zambia that were already on treatment and had initially undergone index case testing, but had since found new sexual partners. Trained psychosocial counsellors provided a brief counselling session that aimed at eliciting sexual partners with whom relations begun up to six months prior to our engagement with them. The partners were then approached and offered HIV counselling and testing in a professional manner either with the help of the index clients or as part of a targeted community level "door-to-door" HIV testing program.
Lessons learned: Through engaging with 858 (334 males and 524 females) clients that were on treatment from 0-18 months, 975 sexual partners (389 males and 595 females) were elicited. 922 (94.6%) accepted speaking to a counsellor. Of these 582 (63.1%) were tested while 340 (36.9%) already knew their positive status, but had not disclosed to the indexed partner. Of those tested, 114 (19.6%) were positive. Of the positives, 42 (37.2%) were male, while 72 (71.6%) were female.
The largest proportion of the positives, 84 (73.4%), were elicited from partners that were on treatment for 13-18 months. While the least, 15 (13.1%), came from those on treatment for 0-6 months, and those on treatment for 7-12 months accounted for 38 (33.5%).
Conclusions/Next steps: Though recipients of index testing and partner notification services already on ART will not necessarily transmit HIV to their new partners once they are on treatment and virally suppressed, they remain an important link to the unreached people living with HIV that are not yet diagnosed. This applies especially to those that are on treatment for a longer period and appreciate the importance of antiretroviral therapy - exemplifying the untapped potential that periodic HIV index case testing has to finding.

EP0843

Transitioning from two test- to three test algorithm for HIV diagnosist in Cameroon: lessons learned

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Background: The WHO recommends adoption of a three-test algorithm for HIV diagnosis in countries with HIV prevalence below 5%, to improve diagnostic accuracy and reduce risk of false positive results. Cameroon, with 2.7% prevalence, initiated transition from two-test- to three-test algorithm, while incorporating combined HIV/syphilis screening for pregnant women. A national roadmap was developed, mobilizing healthcare teams, disseminating targeted information to Health personnel, and engaging stakeholders to ensure successful adoption.

Description: The implementation of the three-test algorithm in Cameroon followed three main stages.

Stage one: selection of WHO pre-qualified tests, sample collection, characterization, and verification to identify a three tests algorithm meeting high specificity and minimum cross reactivity.

Stage two: field implementation of the three-test algorithm incorporating a robust quality control measure, targeting pregnant women, their partners, and key populations in high-volume healthcare facilities across four regions. An inclusive approach with stakeholder information meetings and cascade training involving central, regional, and district levels was employed.

Stage three focused on expanding the program to the six remaining regions and preparing panels required for external quality control.

Lessons learned: For key populations and pregnant women: First Response® HIV 1-2-O HIV/Syphilis as the first test, followed by One Step Anti-HIV (1&2), and the Diagnostic Kit for HIV (1+2) Antibody (Colloidal Gold) V2 KHB as the third test. For the general population, the first test was replaced by the First Response® HIV 1-2-O Card. Key consideration for the selection of the algorithm included ability to detect HIV 1 Group O, a variant specified in Cameroon and commonly missed by conventional RDT kits.

During the pilot phase, four stakeholder information meetings were held, 17 regional trainers trained 70 district trainers, and approximately 2,100 healthcare providers were trained across 260 healthcare facilities. The external quality control panels are now finalized and ready for deployment in healthcare facilities.

Conclusions/Next steps: The implementation of the three-test algorithm in Cameroon marks a significant milestone in improving the quality and reliability of HIV screening, while also integrating combined screening of HIV and syphilis for more comprehensive care. The results from the pilot phase provide a solid foundation for a successful nationwide rollout.

Implementation research to scale up prevention

EP0844

Engaging the youths in HIV prevention campaigns; learnings from a pilot deployment of an interactive chatbot in Uganda

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Background: Traditional communication channels (radio, print, television) used for HIV awareness campaigns in Uganda are not contextualized for certain demographics as they require space and contact time creating pockets for new infections. The ubiquity of mobile phones and increasing internet penetration provided an opportunity to pilot an interactive chatbot among urban youths in Uganda.

Description: From January to May 2024, under the USAID Social Behavioral Change Activity (SBCA) we piloted a chatbot ('Dr. Ezzy') among urban youths. It was accessed via the WhatsApp platform with promotional materials (flyers, infographics) used for awareness creation. 'Dr.Ezzy' offered teleconsultation, HIV risk self-assessment, and HIV prevention information. Users ordered HIV self-testing kits and condoms and had them delivered.

Lessons learned: >Over the 5-month pilot period, 'Dr. Ezzy' interacted with 1,209 unique users with over 2,000 health inquiries being handled. The majority of users were males (616; 51%) with a median age of 27 years (16-51). In regards to HIV prevention commodities, 850 HIV-self-testing kits and 2,000 condoms were ordered via 'Dr. Ezzy' platform. A review of the HIV-related inquiries handled via 'Dr. Ezzy' showed that 36% were on HIV prevention (myths, spread, signs and symptoms etc), 33% on care and treatment (anti-retroviral side effects, mechanisms of action, adherence etc) and 31% on HIV testing (results interpretation, HTS services points etc).

Conclusions/Next steps: Virtual interactive self-service platforms like 'Dr. Ezzy's WhatsApp chatbot improves access to HIV prevention services among youths who are usually stigmatised and shy away from traditional physical facilities. With automation, large numbers of users can be handled in a short time even at scale.

EP0845

High tuberculosis preventive therapy initiation and completion rates among newly initiated antiretroviral therapy clients in Malawi: children left behind

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Background: Tuberculosis preventive therapy (TPT) reduces TB burden among people living with HIV (PLHIV) when given alongside antiretroviral therapy (ART) in regions with a high prevalence of TB. Malawi scaled up TPT to all PLHIV initiating treatment. We evaluated the uptake and completion of TPT among newly-initiated ART clients in a program setting in Malawi.
Methods: All clients initiating ART, except those with active TB and either pregnant or breastfeeding, were eligible for TPT. Using a retrospective cohort study, we analyzed routinely collected data from electronic medical records pooled across ten high-volume ART facilities supported by the Elizabeth Glaser Pediatric AIDS Foundation in Malawi. We included all clients who initiated ART between January and March 2023. Data was abstracted using an ODK Collect-based data collection tool and analyzed using Stata 18. We used descriptive statistics to summarize the participants' demographic and clinical characteristics, while logistic regression was employed to assess factors associated with TPT initiation and completion.
Results: Overall, 1,289 participants were included; 1,015 (78.7%) were eligible for TPT. Of these, 820 (80.8%) were initiated on TPT; 773 (94.3%) were started on weekly isoniazid and rifapentine, while 47 (5.7%) were on daily isoniazid. Nearly 74.4% of the clients initiated on TPT completed a full course of treatment.
Children <15 years, clients presenting with WHO clinical stage three or four, and those residing in urban areas were less likely to initiate on TPT: adjusted odds ratio (aOR): 0.10 (95%CI: 0.05–0.18), 0.37 (95%CI: 0.22–0.64), and 0.58 (95%CI: 0.36–0.94), respectively. Children and clients in urban areas had reduced odds of completing TPT: aOR: 0.21 (95%CI: 0.81–0.53) and 0.58 (95%CI: 0.37–0.91), respectively.
Among participants retained in care after one year, 877 (99.1%) did not develop active TB. Fewer TB cases were found among participants who initiated TPT than those who did not (0.18% vs. 1.59%, p=0.01).
Conclusions: High TPT initiation and completion rates were observed among eligible clients initiating ART in Malawi. However, children lag in the initiation and completion of TPT. Interventions that improve TPT uptake among children living with HIV, including scaling up pediatric-friendly formulations, are required.

EP0846

PrEP in the era of choice: early insights into client preferences and uptake of long-acting injectable vs. daily oral PrEP in Zimbabwe, 2024

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Background: Zimbabwe has achieved a notable reduction in new HIV acquisitions over the past decade amongst the general population. However, increasing uptake of primary prevention among population subgroups that remain at high risk for HIV requires more options for prevention. Zimbabwe was the first African country to approve long-acting injectable Cabotegravir (CAB-LA) (2023) and began implementation within the public sector (2024), thus providing an opportunity to better understand client preferences between injectable and oral PrEP.
Description: Starting in April 2024 CAB-LA was offered as an alternative to oral PrEP in three high-volume public-sector clinics located in urban and rural settings with high HIV incidence. CAB-LA was offered to both daily oral PrEP users and PrEP naïve clients. HIV risk assessment and PrEP eligibility were carried out using a standard HIV risk assessment guide. Eligible and interested clients received comprehensive pre-counselling including explanation of the two PrEP options, dosage, and potential side effects.
Lessons learned: Between April and September 2024, CAB-LA was offered to 3,036 clients eligible for PrEP and at risk of HIV acquisition, including 2,071 (68%) with prior PrEP experience and 965 (32%) who were PrEP naïve.
Among these clients, 2,603 (68%) were part of high-risk populations: 1,763 female sex workers (FSW) and 513 men who have sex with men (MSM). Of those offered PrEP, 2,672 (88%) chose daily oral PrEP, while 364 (12%) initiated CAB-LA.
CAB-LA preferences were 15% (256/1,763) among FSW, 17% (86/513) among MSM, 0.9% (1/116) among HRP and 4% (21/593) among individuals from the general population. Of the CAB-LA initiators, 270 (74%) were female and 308 (85%) were aged 20 to 39 years. At second initiation dose, 300 (84%) continued with CAB-LA [83% amongst high-risk populations], while 27 (11%) were lost to follow-up, and two (<1%) switched back to daily oral PrEP.
Conclusions/Next steps: The introduction of CAB-LA in Zimbabwe has expanded HIV prevention options for high-risk populations. While initial uptake was low (as expected) at product introduction stages, short-term adherence

among high-risk populations was high and promising improvement in PrEP efficacy. Only a few switched back to daily oral PrEP, highlighting opportunities to learn about ongoing preferences and usage.

EP0847

PrEP uptake and STI services for male sex workers (MSWs) in Mangochi District, Malawi: a lesson in service integration

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Background: As Malawi strives for sustainability in its health and HIV services, integration has become a critical focus of developing a sustainability roadmap. A key example of this effort is a project in Mangochi District that integrates Pre-Exposure Prophylaxis (PrEP) and sexually transmitted infection (STI) services for Male Sex Workers (MSWs) within the Lesbian, Gay, Bisexual, Transgender, Queer and Intersex, Asexual (LGBTQI+A) community at a Drop-In Centers (DICs) frequently accessed by key populations. The project aims to prevent HIV while identifying and treating STIs promptly to curb their spread within the MSWs community in Mangochi District, Malawi.
Description: The project was incepted in October 2023 in Mangochi District and integrates PrEP and STI services at a DIC, frequently used by LGBTQI+A and MSWs. The program uses LGBTQI+A and MSWs peer educators to provide tailored health education, facilitate service navigation, and ensure adherence to both PrEP and STI treatment in collaboration with the community healthcare workers. Data were collected on an ongoing basis from program reports and focus group discussions with healthcare providers and clients to evaluate the effectiveness of the service integration in improving HIV prevention and STI treatment outcomes.
Lessons learned: The project data revealed a 50% steady decline in HIV incidence and a 60% average reduction in STI incidence over the two years. Focus group discussions confirmed that STI testing and treatment were pivotal for the effectiveness of PrEP. Both healthcare providers and clients affirmed that integrating services improved accessibility and uptake, significantly enhancing health outcomes for MSWs within the LGBTQI+A community. A notable best practice from this project is using community-based LGBTQI+A and MSWs peer educators in collaboration with key population-friendly trained healthcare workers to bridge the gap between key populations and healthcare services.
Conclusions/Next steps: Integrating PrEP and STI health services in a single delivery model demonstrated significant benefits in reducing both HIV and STI incidences among MSWs within the LGBTQI+A community in Mangochi District, Malawi. This integrated approach serves as a practical framework for improving healthcare outcomes in key populations, especially for the LGBTQI+A and MSWs community and could be scaled up to enhance health outcomes for all.

EP0848

Does peer education and onsite HIV counselling and testing impact on the sexual behaviour of adolescents and youths in South East Nigeria?

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Background: The high prevalence of HIV in Nigeria, estimated at 2.1% among the general population and 3.5% among adolescents aged 15–19 years, highlights the urgent need for targeted interventions. Adolescents face significant barriers to accessing HIV counseling and testing (HCT), including stigma, poor accessibility, and a lack of adolescent-friendly services.
This study evaluates the impact of peer education and on-site HCT services on sexual behavior amongst adolescents and youths in senior secondary school in Abakaliki, Nigeria.
Methods: This study was conducted in Abakaliki metropolis, South East Nigeria amongst senior secondary school students. A quasi-experimental study design was utilized, involving 466 students each in intervention and control groups. Peer educators were trained to disseminate accurate information on HIV and encourage positive sexual health practices. On-site HCT services were introduced in the intervention school, addressing logistical barriers to testing. A self-administered semi-structured questionnaire was used to collect data on sexual behavior and HCT uptake at baseline and three months post-intervention. The study duration was six months, data analysis and multivariate logistics regression was done using SPSS version 23.

Variables		Study group n = 466 No. (%)	Control group n = 466 No. (%)	X^2 (P Value)
Sex	Male	222 (47.1)	249 (52.9)	3.13 (0.08)
	Female	244 (52.9)	217 (47.1)	
Current Class	SS1	149(32.0)	162 (35.0)	1.20 (0.55)
	SS2	182(39.1)	167 (35.8)	
	SS3	135(29.0)	137 (29.3)	
Age	12-14	58(12.4)	61 (13.1)	13.8 (3.20)
	15-17	308(66.1)	258 (55.4)	
	18-20	99(21.2)	144 (30.9)	
	Above 20	1(0.2)	3 (0.6)	
Marital Status	Single	417(89.5)	407 (87.3)	2.98 (0.06)
	Married	25(5.4)	32 (6.9)	
	Separated	16(3.4)	16 (3.4)	
	Divorced	2(0.4)	5 (1.1)	
	Widowed	6(1.3)	6 (1.3)	
Type of Family	Polygamous	251 (53.9)	260 (55.8)	1.53 (0.47)
	Monogamous	210 (45.1)	204 (43.8)	
	Single Parents	5 (1.1)	2 (0.4)	

Results: The results revealed significant changes in sexual behavior and HCT uptake in the intervention group. The proportion of sexually active students decreased from

35.8% at baseline to 24.3% post-intervention, with consistent condom use among sexually active respondents increasing from 28.7% to 62.4%.
In contrast, the control group showed minimal change, with a slight decline in consistent condom use (30.1% to 28.5%, p<0.01).
There was statistically significant improvement in HCT uptake in the intervention than control group at post intervention.
Conclusions: This study demonstrates the effectiveness of integrating peer education with on-site HCT services in improving sexual health outcomes and HCT uptake among adolescents.
These findings provide evidence for scaling up similar interventions in Nigeria schools, contributing to national efforts to reduce HIV prevalence among adolescents.
Further research should explore long-term sustainability and the impact of such interventions on HIV incidence.

Implementation research to scale up prevention

EP0849

HIV transmission and associated factors among sexual partners of individuals newly diagnosed with HIV aged 15 years and above in North Eastern Uganda — a retrospective study

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Background: Despite the progress made in access to HIV testing services, an estimated 5.4 million people living with HIV(PLHIV) remain undiagnosed. The World Health Organisation recommends efficient innovative approaches like Assisted partner notification(APN) to improve HIV case identification and treatment initiation.
This study aimed to determine the effectiveness of APNs in improving HIV case finding and identifying predictors of HIV transmission among newly HIV-diagnosed individuals in the Teso region, North Eastern Uganda.
Description: From January 2023-September 2024, individuals aged 15 years above newly diagnosed with HIV (index clients) in 20 health facilities in the Teso region who consented were offered APN, where their partners were line-listed, tracked, and tested for HIV. Data on the index clients and their corresponding partners tested was collected from the APN register using a designed tool.
The primary outcome was the HIV positivity of the partners tested. Data was exported to STATA 18 (StataCorp LP,College Station, TX, USA) analyzed and summarized into proportions and frequencies.
Logistic regression analysis was conducted to determine determinants among index clients associated with transmission of HIV to their partners, which were reported as adjusted odd ratios (aOR). A p-value of 0.05 was considered significant.
Lessons learned: A total of **1,115** index clients with at least one partner tested for HIV were included in the study. The median age of clients was 38(interquartile range 29-45). Of which 58.74% (n=655) were females, 70.58% (n=787) were aged 25-49 years, and 38.68% (n=431) preferred to self notification of partners for testing. The HIV positivity among partners tested was 18.74% (n=209).
Factors associated with HIV transmission to partners included index client being males (aOR=1.76,95%CI; 1.27-2.42, P=0.001), Never married (aOR=1.95,95%CI;1.17-3.28,P=0.025), being on ART ≤ one year (aOR=3.75,95%CI;2.27-6.19, P=0.001), having multiple sexual partners (aOR-=1.88,95%CI;1.34-2.65,P=0.001), and receiving APN for the first time (a0R=2.01,95%CI;1.04-3.89, P=0.038).
Conclusions/Next steps: There was a high HIV transmission from individuals newly diagnosed with HIV. Index clients being male, on ART for ≤ one year, never married, having Multiple Sexual Partners, and receiving APN for the first time were more likely to transmit HIV to their partners. Therefore there is a need to scale HIV prevention services for high-risk populations to end the HIV epidemic by 2030.

EP0850

Community perspectives on HIV and STI doxycycline Post Exposure Prophylaxis: lessons from community consultations for effective program development in Andhra Pradesh, India, 2024

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Background: HIV and sexually transmitted infections (STI) remain prevalent among key populations (KPs) in India, highlighting the need for accessible post-exposure prophylaxis (PEP) services. Access and uptake to biomedical prevention tools, such as HIV PEP and doxy PEP for STIs, remain limited in India. To strengthen these interventions, we conducted community consultations with KPs in Andhra Pradesh (AP) to understand communities' perception, awareness, acceptance, preferred service delivery models, and barriers to HIV PEP and doxy PEP uptake providing critical insights for designing community-centered interventions.
Description: The consultations were carried out during November 18-24, 2024, among one stop center clinic attendees across AP using a semi structured discussion guide. Twelve consultations included 150 participants: 71 Female Sex Workers (FSW), 67 Men who have Sex with Men (MSM) and 12 People who Inject Drugs (PWIDs).

Lessons learned: Limited baseline awareness of HIV PEP (1%) and no prior knowledge of Doxy PEP was observed. All participants reported at least one incident that warranted HIV and/or doxy PEP use in the last year.
Preferences for service delivery included One-stop centers and community-friendly dispensing models. FSW preferred pharmacy models, while MSM feared discrimination from pharmacy staff.
Cost was identified as a significant barrier, with over 90% of participants suggesting less than $5 for a course of HIV PEP to make it accessible to all. MSM feared discrimination as doxy PEP is currently indicated only for them.
Discomfort in discussing condomless sex with providers, due to stigma and judgment, was widespread (70%). Concerns about stigma and confidentiality influenced preferences for discreet packaging (45%) and community-friendly providers (70%).
With the availability of multiple prevention options, communities highlighted confusion about when and how to use HIV PEP, doxy PEP, and Post Exposure Prophylaxis.
Conclusions/Next steps: Community consultations highlighted indication for, and challenges in accessing HIV and doxy PEP services in India. The findings underscore the importance of developing community-friendly delivery models; increasing PEP literacy; and affordable pricing. KP-competent programs ensure stigma-free and confidential access to PEP; and accessible service delivery through existing channels, including community-friendly models, will be developed to enhance access and uptake for PEP in AP.

EP0851

Lessons learned in Pre-Exposure Prophylaxis provision among pregnant and breastfeeding women

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Background: Pregnant and Breastfeeding women (PBFW) face an elevated risk of HIV acquisition due to various biological, social and behavioral factors. Incident HIV acquisition has been linked to an increased risk of mother-to-child transmission (MTCT). Pre-Exposure Prophylaxis (PrEP) has proven effective in reducing HIV acquisition among at-risk populations, including PBFW.
The Health Resources and Services Administration under the U.S. President's Emergency Plan for AIDS Relief–supported initiative: *Leveraging Health Service Equity for Sustainable HIV Epidemic Control* aims to enhance healthcare for mothers by promoting PrEP uptake among at-risk PBFW to lower maternal HIV acquisition and subsequently reduce MTCT.
Description: The initiative which has been running since October 2022 to date in the Maternal and Child Health units of four high volume district hospitals in Lusaka, employs a multidisciplinary team of clinical, data and support staff working in partnership with Zambian Ministry of Health staff to provide care for PBFW living with HIV and their babies aged ≤2 years. The team provides health education, 3-monthly retesting (as per national guidelines) and ensures screening and enrolment for PrEP using a PrEP screening register which captures demographics, HIV risk assessment, eligibility and reasons for PrEP refusal. Screening data for all PBFW who declined PrEP between January-June, 2024 were reviewed.
Lessons learned: Of the 15,247 PBFW (antenatal=52.0%, postnatal=48.0%) screened for PrEP eligibility, 4159 (27.3%) were found eligible with 757 (18.2%) enrolling and 3402 (81.8%) declining PrEP respectively. Declines were higher among antenatal (56.7%) compared to postnatal (43.3%) mothers. The median age of those that declined was 27 years with 34.7% of these being adolescent girls and young women. Key risk factors identified included partner HIV status unknown (44.5%), long distance relationship (34.8%) and inconsistent use of condoms with other risk (6.3%).
Reasons for refusal included unwillingness to take pills (38.8%), low perceived HIV risk (25.5%) and fear of partner disapproval/stigma/violence (23.0%). Other reasons accounted for 12.7%. Most women (61.8%) chose condoms for prevention.
Conclusions/Next steps: Improving PrEP adoption among at-risk PBFW requires multifaceted strategies addressing PrEP formulations (pills and dosing), health education to improve risk perception and raising awareness to reduce stigma and violence in homes and communities.

EP0852

Implementation and retention outcomes of subsidized PrEP delivery models among key populations in Andhra Pradesh, India

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Background: Pre-exposure prophylaxis (PrEP) is a cornerstone of HIV prevention, particularly for key populations (KPs) disproportionately affected by HIV in India. PrEP uptake remains suboptimal due to systemic, social, and individual barriers. We evaluate the implementation of structured PrEP delivery program in Andhra Pradesh, to identify opportunities for program optimization.
Description: From June 2022 to March 2024, comprehensive PrEP program was implemented across Andhra Pradesh, targeting KPs, including Transgenders (TG), Female Sex Workers (FSW), People who Inject Drugs (PWIDs), and Men who have Sex with Men (MSM).
Data on sociodemographic profiles, risk behaviors, and health parameters was collected as part of routine program monitoring.
Participants accessed PrEP through one of three delivery models: One-Stop Centers (OSC), Preferred Private Providers (PPP), and Tele-PrEP. Retention rates were tracked through monthly follow-ups, assessing adherence, and barriers to continued use.

Lessons learned: Reasons for discontinuation (n=363; 30.5% of those initiated) included recurrent out-of-pocket expenses (84; 23.1% of those who stopped), cessation of risk behavior (121; 33.3%), and side effects (6; 1.7%). Tele-PrEP models engaged younger participants but were underutilized compared to OSC delivery models, which were preferred for confidentiality and convenience.

PrEP Treatment Cascade	Frequency	Percentage
Information on PrEP	70,901	100%
Expressed interest in PrEP	6,620	9.3%
Assessed as ready to initiate PrEP	1,235	18.6% of those interested
Started PrEP	1,188	96.2% of those assessed
Key Populations (KPs) initiated		
MSM	280	23.6% of those initiated
FSW	254	21.4% of those initiated
TG	143	12.0% of those initiated
PWID	3	0.3% of those initiated
Follow-up Retention		
Completed at least one visit	535	45.0% of those initiated
Completed three visits	179	15.1% of those initiated
Completed six visits	70	5.9% of those initiated
Never attended follow-up	653	55.0% of those initiated
Typology-wise Retention		
MSM	106	38.0% of MSM initiated
FSW	89	35.0% of FSW initiated
TG	48	33.6% of TG initiated

Table 1: PrEP Treatment Cascade and Follow-Up Retention Among Key Populations in Andhra Pradesh, India.

Conclusions/Next steps: The implementation of subsidized PrEP delivery models among KPs demonstrated strong potential for scaling HIV prevention, with high initiation rates among those assessed as ready. However, retention declined over time, with many individuals discontinuing due to challenges such as out-of-pocket expenses, cessation of risk behavior, and stigma. OSC delivery models emerged as the most preferred option for their confidentiality and convenience, while Tele-PrEP showed promise for engaging younger participants but remained underutilized. These findings emphasize the need for targeted strategies to improve retention, address adherence barriers, and expand access through innovative delivery models like Tele-PrEP and PPP, providing valuable insights to optimize PrEP programs in resource-limited settings.

EP0853

The perceived acceptability and feasibility of delivering injectable PrEP among pharmacy providers in Kenya: findings from a survey of pharmacy providers trained on oral PrEP delivery

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Background: New long-acting injectable HIV pre-exposure prophylaxis (PrEP) products have demonstrated effectiveness and plans for scale-up are happening across Africa. Pilot studies have demonstrated that community pharmacies can reach individuals engaging in behaviors associated with HIV risk and that oral PrEP delivery is achievable in this setting.

We sought to understand how feasible and acceptable Kenyan pharmacy providers anticipate it would be to deliver injectable PrEP.

Methods: As part of the Pharm PrEP cRCT—a 60-pharmacy cluster-randomized controlled trial testing different models of pharmacy-based oral PrEP delivery or referral in Western and Central Kenya (NCT05842122), we trained pharmaceutical technologists and Pharmacists on oral PrEP. In baseline surveys, we presented providers with statements derived from the Theoretical Framework of Acceptability (TFA) and the Feasibility of Intervention Measure (FIM) and asked them to indicate their level of agreement on a five-point Likert scale.

Additionally, we assessed their willingness to deliver injectable PrEP (yes/no/maybe) and amount they would charge clients per injection if pharmacies received the drug for free. We descriptively analyzed and reported our findings.

Results: From July 2023-November 2024, we surveyed 105 providers; 55% (58/105) were men, 75% (79/105) pharmaceutical technologists, median age was 33 years (IQR 20-58), and median years working in pharmacy care was 7 (IQR 0-28). Most providers (≥94%, 99/105) agreed or strongly agreed that they liked the idea of delivering injectable PrEP (TFA construct: affective attitude) and that it would be doable at their pharmacies (FIM).

Few providers (≤8%, 8/105) agreed or strongly agreed that delivering injectable PrEP would be hard (TFA construct: burden) or interfere with their other priorities (TFA construct: opportunity cost).

Almost all providers (93%, 98/105) expressed willingness to deliver injectable PrEP. The median amount they anticipated charging per injection was the equivalent of ~$3.50 USD (IQR $1.50-3.50).

Conclusions: Kenyan pharmacy providers trained on oral PrEP perceived that delivering injectable PrEP at pharmacies would be highly acceptable and feasible for them,

with most expressing willingness to deliver it at a price that would be affordable for many clients. Countries seeking to quickly scale up injectable PrEP services should explore ways to leverage private pharmacies.

EP0854

Improving access to HIV services with virtual health interventions among key populations in Myanmar

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Background: In Myanmar, HIV prevalence is significantly higher among key populations: 34.9% in PWIDs, 8.8% in MSMs, and 8.3% in FSWs (UNAIDS, 2021) than in the general population (less than 1%). Reaching KP with linkage to HIV prevention and treatment services is critical to reducing the HIV burden in the country. AIS and its implementing partners are providing HIV prevention, care, and treatment for key populations in five high-burden regions in Myanmar.

Although most clients can be reached through routine HIV prevention activities, there are some hidden KP who are still not accessing health care services. To address this gap, AIS and its implementing partners started virtual key population service centers (KPSC) to reach hidden and hard-to-reach KP.

Description: In September 2023, AIS supported two implementing partners, Population Services International (PSI) and Medical Action Myanmar (MAM), to start virtual KPSC activities that include trained peer online teams to reach clients through social media channels such as , hotline, Facebook, Viber, Telegram, and dating apps. The teams provided one-to-one online/hotline counseling, Tele PrEP service, HIV testing, and referrals and linkage to facilities with an online booking system.

With this practice, clients do not need to come to the facility unless necessary, and it can save travel time, cost, and time. It also reduces the stress of the clients who are reluctant to come to the facility due to confidentiality.

Lessons learned: From September 2023 to September 2024, virtual KPSCs achieved HIV testing to 1,893 clients (1,560 MSM, 86 TGW, and 247 FSW), identified 219 HIV-positive cases with a positive yield of 11.5% (192 MSM, 10 TGW, and 17 FSW), linked 232 clients (96%) to ART. 405 clients were linked with PrEP service.

Conclusions/Next steps: Virtual health interventions are effective for reaching and providing HIV services for key populations, especially hidden and hard-to-reach population.

More comprehensive services like mental health screening and counseling should be integrated into virtual health services.

Virtual interventions could also be expanded geographically and integrated with existing HIV service provision nationwide.

EP0855

Broadening entry points for HIV testing and care through digital solutions: insights from PSI Myanmar's Care Connect HIV health education chatbot

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Background: Key populations in Myanmar face significant barriers to accessing essential HIV services, often remaining hidden and disconnected. According to UNAIDS, over one-third of reporting countries stated that more than 10% of key population respondents avoided health care due to stigma and/or discrimination. To address this issue, Population Services International (PSI) Myanmar launched the "Care Connect" HIV health education chatbot to provide confidential HIV health information and promote self-care.

Description: An HIV chatbot was developed in local language and hosted on the widely used Telegram platform in April 2024 to reach hidden key populations, following the country's Facebook ban. The topics covered included general HIV knowledge, HIV self-testing (HIVST), pre- (PrEP) and post- (PEP) exposure prophylaxis, and antiretroviral therapy (ART). To protect user confidentiality, questions on age, sex and gender identity were made optional.

User engagement and the most searched topics were tracked to assess effectiveness. The platform was promoted on social media commonly frequented by key populations. A hotline number was provided for in-depth discussion and referrals.

Lessons learned: The HIV chatbot engaged 2,036 users between April 4, 2024, and January 3, 2025, with an average of 255 users per month. The most frequently accessed topics were general HIV knowledge (42%) and self-testing (31%) followed by PrEP (11%), ART (10%) and PEP (6%). This finding indicates a growing interest in self-testing, despite the limited distribution of free test kits in the country, which has yet to meet the demand.

The available data suggests a male dominance in HIV health-seeking behavior (77.3%). An interview with the hotline doctor revealed challenges in referring clients for free non-occupational PEP due to limited services in the country.

Conclusions/Next steps: Care Connect HIV chatbot successfully broadened access to HIV information and care for key populations. It revealed higher interest in general HIV knowledge and self-testing, while less searched topics may require further promotion. The male dominance in usage of the chatbot suggests more targeted interventions for high-risk female population. Chatbot driven linkage to care requires further improvement. These insights will guide our future efforts to promote free chatbot-initiated HIV self-testing and linkage to HIV prevention and care services.

EP0856

The fidelity, acceptability, and feasibility of a peer PrEP referral with HIV self-testing model among young Kenyan women

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Background: The behaviors of adolescent girls and young women (AGYW)—a priority population for HIV service delivery in Africa—are often influenced by their peers. To increase uptake of oral HIV pre-exposure prophylaxis (PrEP) among Kenyan AGYW, we tested a model of peer PrEP referral with HIV self-testing (HIVST) delivery in a cluster-randomized controlled trial (cRCT).
Methods: In the Peer PrEP cRCT, AGYW (≥16-24 years) who used PrEP (past 12 months) were recruited to refer four peers to PrEP. Index peers were randomized 1:1 to: 1) *enhanced referral*, where they received group training on referral strategies, eight HIVST kits (two/referred peer), and four PrEP referral cards (with information on nearby clinics), or 2) *standard referral,* where they received four referral cards.
Three months later, index and referred peers completed surveys assessing the fidelity of peer referral—per study arm assignment—and their perceived acceptability and feasibility of enhanced peer referral.
We report the percentage of participants that agreed or strongly agree (on 5-point Likert scales) with statements based on the Theoretical Framework of Acceptability (TFA) and Feasibility of Intervention Measure (FIM).
Results: From May 2023-August 2024, we enrolled 165 AGYW (median age 22 years; IQR 20-23): 82 index peers (40 enhanced; 42 standard) and 83 referred peers (55 enhanced; 28 standard). Most referred peers reported receiving all the appropriate materials from index peers (enhanced: 84%; standard: 86%). Most participants reported liking the enhanced peer referral model (≥88%; TFA: affective attitude) and were confident in theirs/peers' ability to implement the intervention (≥95%; TFA: self-efficacy). Few AGYW thought the intervention was hard to deliver/receive (≤8%; TFA: burden) or interfered with other priorities (≤1%; TFA: opportunity costs). Most participants thought the intervention was possible to implement (≥90%; FIM). There were no differences in outcomes by study arm.
Conclusions: In the Peer PrEP cRCT, peer PrEP referral was delivered with high fidelity and enhanced referral was perceived as acceptable and feasible among participants. These findings suggest that Kenyan AGYW are able and willing to refer their peers to PrEP with HIVST, highlighting the need to optimize this strategy to increase PrEP coverage.

EP0857

Acceptability of HIV pre-exposure prophylaxis delivery at private pharmacies in Kenya: a qualitative study of client and pharmacy provider experiences

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Background: Kenya is one of several countries exploring ways to leverage the private sector for HIV service delivery. A pilot study of pharmacy-delivered oral HIV pre-exposure prophylaxis (PrEP) services in Kenya found high uptake and continuation comparable to public HIV clinics. To understand the acceptability of this delivery model among clients and pharmacy providers, we conducted in-depth interviews (IDIs).
Methods: This pilot was conducted between November 2020-December 2021 at 5 pharmacies in Kisumu and Kiambu counties in Kenya. Near study endline, we purposively sampled and interviewed clients ≥18 years — all of whom paid 300 Kenyan shillings (KES) [~$3 USD] for PrEP — and licensed pharmaceutical technologists who delivered PrEP. We used semi-structured interview guides informed by the Theoretical Framework of Acceptability (TFA) and analyzed transcripts thematically.
Results: We interviewed 39 PrEP clients and 6 pharmacy providers; 53% (24/45) were female and median age was 30 years (IQR: 23-35). All interviewees reported liking pharmacy-based PrEP delivery in general; clients liked the privacy, convenience, fast service times, and quality of services, while providers liked getting new clients and increased profits (TFA: affective attitude).
Most providers described PrEP delivery workload as manageable, but several anticipated charging more for their time in the future. Despite paying 300 KES for PrEP, several clients said this fee was not affordable and suggested reducing it to 100-200 KES [~$ 1-2 USD] (TFA: burden).
Only one provider reported ethical issues and stopped PrEP delivery after 3 months because it brought HIV stigma to her pharmacy (TFA: ethicality).
Most providers thought availing PrEP at pharmacies was a good way to reduce HIV incidence (TFA: perceived effectiveness), as many clients are sexually active and pharmacy providers already possess basic skills required for

PrEP delivery (TFA: intervention coherence). All providers reported confidence in their ability to deliver PrEP (TFA: self-efficacy).

Conclusions: Pharmacy clients and providers in this study perceived this delivery model as acceptable on multiple dimensions, suggesting that pharmacies could be an acceptable PrEP delivery platform in Kenya.

Future research should explore model adaptations that could affect acceptability (e.g., client fee amount) and assess impact on model adoption and sustainability.

EP0858

Acceptability of integrating novel PrEP products within reproductive health clinics in central Kenya: perspectives of adolescent girls and young women, healthcare providers, and program leaders

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Background: Novel HIV pre-exposure prophylaxis (PrEP) products, including injectable cabotegravir and dapivirine vaginal ring, may address persistence and adherence-related barriers with oral PrEP, potentially yielding improved HIV prevention coverage. Integrating these tools into reproductive health (RH) clinics could expand reach to adolescent girls and young women (AGYW).

We conducted a qualitative study among AGYW, healthcare providers (HCPs), and program leaders (PLs) to gather insights on integrating novel PrEP products within RH clinics.

Methods: Between April-October 2024, we conducted focus group discussions (FGDs) and in-depth interviews (IDIs) with AGYW, HCPs, and PLs in Kiambu and Muranga counties, Central Kenya. Eligible AGYW were 18-35 years and had experienced receiving RH/PrEP services. HCPs/PLs were aged >18 years, with experience delivering or coordinating RH/HIV services.

Semi-structured interview guides were based on the Consolidated Framework for Implementation Research. Interviews were audio-recorded, comprehensive debriefing summaries prepared; and analysed thematically to explore perspectives on PrEP integration.

Results: Sixty-eight respondents (34 AGYW; 27 HCPs; 7 PLs) participated in 8 FGDs and 20 IDIs. Among AGYW, median age was 24 years (IQR:22-27), 94% had used contraceptive methods, and 82% had used oral PrEP. Among HCPs/PLs, median age was 43 years (IQR:37-49), 29 were female, and included 14 nursing managers, 10 nurses, and 7 county-level RH/HIV program leaders.

HCPs and PLs supported integration of novel PrEP products within RH clinics given RH providers' experience offering injectable contraceptives, serving the same eligible women (*compatibility*), and availability of equipment for PrEP delivery (*materials and equipment*).

Among AGYW, integration was perceived to improve privacy, reduce HIV clinic-associated stigma (*recipient-centeredness*), and offer convenient access to HIV and pregnancy prevention (*need*).

Perceived opportunities for integration included ongoing county-level service integration policies, and RH clinic-based oral PrEP delivery (*policies and laws*). Staffing and room shortage (*work infrastructure; space*), and clinic congestion (*recipient-centeredness*) were major anticipated challenges.

To facilitate integration, respondents suggested training RH providers on delivering PrEP—including novel PrEP products, and HIV counselling, incorporating HIV counsellors within RH, and providing youth-friendly services.

Conclusions: Our results suggest a potential acceptability of integrating novel PrEP products within RH clinics attributed to compatibility with clinic environments, perceived client benefits, and supportive policies.

EP0859

Awareness, attitudes, and practices regarding HIV PrEP and DoxyPEP: a cross-sectional survey of healthcare providers in Peru

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Background: In 2023, the Peruvian Ministry of Health introduced guidelines providing priority populations access to subsidized oral HIV pre-exposure prophylaxis (PrEP). Healthcare provider awareness is critical for successful PrEP implementation. Doxycycline post-exposure prophylaxis (DoxyPEP) is an evidence-based tool for bacterial STI control not yet formally adopted in Peru.

This study aimed to assess Peruvian provider perspectives on PrEP and DoxyPEP.

Methods: We conducted a cross-sectional, web-based survey of Peruvian providers from October-December 2024, assessing provider awareness, experiences, and concerns regarding PrEP and DoxyPEP. Poisson regression models were fit to estimate associations of PrEP and DoxyPEP awareness with socio-demographic and professional characteristics. Variables with $p<0.05$ in bivariate analysis were included in multivariate models.

Results: Among 323 respondents, 105 (33%) were physicians, 102 (32%) nurses, 48 (15%) midwives, and 31 (9.6%) pharmacists. Of 251 (78%) providers aware of PrEP, 63% worked in a facility providing PrEP and 55% had received

PrEP training. Of those working in PrEP-providing facilities, 87% endorsed concerns about PrEP stock-outs and 34% indicated that lack of staff training was a barrier to PrEP provision. The most common PrEP concerns were potential increase in 'risky' sexual behavior or STIs (36%) and antiretroviral resistance (26%).

Overall, 160 (50%) were aware of DoxyPEP; of these, 46 (29%) had recommended it. PrEP awareness was associated with LGBTQ+ identity, being a physician, ≥5 years' experience, working in HIV/STI services, and having a client population ≥50% MSM. DoxyPEP awareness was associated with being a physician and serving ≥50% MSM clients (Table).

Participant Characteristic	Total N=323	Aware of PrEP [Overall: 251/323 (77.7%)]		Aware of DoxyPEP [Overall: 160/323 (49.5%)]	
-	n/N (%) of Total, by predictor variable	Crude bivariate PR (95% CI)	Multivariate PR (95% CI)	Crude bivariate PR (95% CI)	Multivariate PR (95% CI)
Cisgender Female (vs Cisgender Male)	187/300 (62.3%)*	1.03 (0.91, 1.16)	-	0.88 (0.70, 1.10)	-
Age; median (IQR)*	35 (23 - 47)	**1.01 (1.00, 1.01)**	1.00 (0.99, 1.00)	1.00 (0.99, 1.01)	-
LGBTQ+ identifying (vs Not LGBTQ+)	30/323 (9.3%)	**1.33 (1.24, 1.42)**	**1.19 (1.09, 1.30)**	**1.40 (1.05, 1.85)**	1.10 (0.83, 1.45)
Lima-Based (vs Not Lima-Based)	140/323 (43.3%)	**1.26 (1.12, 1.41)**	1.10 (0.98, 1.23)	**1.52 (1.22, 1.89)**	1.17 (0.92, 1.47)
Physician (vs Non-physician)	105/323 (32.5%)	**1.26 (1.14, 1.40)**	**1.26 (1.13, 1.40)**	**1.61 (1.31, 1.99)**	**1.55 (1.26, 1.92)**
5+ Years in Practice (vs <5 years)	137/323 (42.4%)	**1.19 (1.05, 1.35)**	**1.18 (1.03, 1.35)**	1.10 (0.88, 1.39)	-
HIV/STI Service Provider (vs Non-HIV/STI Provider)	272/323 (84.2%)	**1.44 (1.12, 1.83)**	**1.33 (1.05, 1.69)**	**1.48 (1.00, 2.18)**	1.29 (0.87, 1.90)
Client Population ≥50% MSM (vs <50% MSM)	165/323 (32.5%)	**1.29 (1.16, 1.43)**	**1.20 (1.07, 1.34)**	**1.66 (1.35, 2.04)**	**1.53 (1.23, 1.91)**

PR: prevalence ratio; 95% CI: 95% confidence interval; bold = statistically significant ($p < 0.05$)
* Note: The denominator for gender comparison is 300 instead of 323 because responses labeled as 'Other' and 'Prefer not to respond' were excluded from this analysis.
* Per 1-year increment

Conclusions: Our results highlight challenges in PrEP implementation in Peru. Although most providers knew of PrEP, concerns about risk compensation, antiretroviral resistance, and insufficient training were common. Efforts should focus on strengthening supply chains and ensuring providers have access to evidence-based information. Providers are recommending DoxyPEP despite the absence of national guidelines, underscoring need for formal guidance.

EP0860

A systematic review of interventions to enhance the uptake of prevention of Mother-to-Child transmission services among Pregnant Women Living with HIV in Nigeria

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Background: The prevention of mother-to-child transmission (PMTCT) of HIV is a cornerstone in reducing pediatric HIV infections and improving maternal health outcomes. Even with the advancements in PMTCT interventions, challenges persist in ensuring the uptake and adherence of these services by pregnant women living with HIV (PWLHIV).

This study evaluates different interventions designed to improve PMTCT service uptake and adherence among PWLHIV in Nigeria.

Description: A systematic search of electronic databases, including PubMed, Web of Science, Scopus, Cochrane Library and African Journals Online (AJOL), was conducted for studies published between January 2010 and December 2024. Search terms included "PMTCT," "HIV," "pregnant women," "interventions," "uptake," "Vertical Transmission", "early infant diagnosis" and "Nigeria." Inclusion criteria were peer-reviewed studies assessing interventions to improve PMTCT service uptake, adherence to antiretroviral therapy (ART), or retention in care among pregnant women living with HIV in Nigeria. Data extraction followed PRISMA guidelines, and the methodological quality of included studies was evaluated using the Cochrane Risk of Bias Tool.

Lessons learned: Twenty-five studies met the inclusion criteria, encompassing a variety of intervention approaches. According to two of the studies integration of PMTCT services with antenatal care, training and task-shifting to community health workers improved accessibility, service delivery and increased uptake rates.

Some Journals of HIV/AIDS and social service indicates that community-based interventions, such as mobilization campaigns and male partner involvement, have shown to increase PMTCT service utilization.

Additionally, peer support groups can effectively address social barriers to care, such as stigma, and enhance treatment adherence among individuals living with HIV.

Another publication shows that mobile tracking solutions, such as SMS reminders and mobile appointment tracking, can effectively enhance retention within PMTCT programs.

Furthermore, economic incentives like conditional cash transfers and the provision of free transportation vouchers have been shown to increase clinic attendance and adherence to PMTCT protocols.

Conclusions/Next steps: In Nigeria, PMTCT uptake among PWLHIV, can be significantly improved through integrated health system approaches, community-based programs, and the use of mobile tracking Health tools. It is critical to optimize these interventions and also address barriers such as stigma and logistical challenges.

EP0861

Impact of a technology-based intervention to advance mental health empowerment among adolescents and young people (AYP) aged 15-24 years and accessing ART and PrEP: a quasi-experimental study in Kenya

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Background: Adolescents and young people (AYP) in sub-Saharan Africa face increasing mental health challenges, yet access to services remains limited due to stigma, lack of awareness, and systemic barriers. The magnitude is even higher among AYP on antiretroviral therapy (ART) and those on pre-exposure prophylaxis (PrEP).

Recognising the link between mental health and HIV, this study aimed to evaluate the impact of a technology-based mental health (MH) intervention integrated into HIV programming to enhance MH empowerment, self-esteem, and service uptake among AYP aged 15–24 years in Mombasa and Kilifi counties in Kenya.

The intervention employed the Tiko Platform, a digital platform that connects AYP to a network of community

health workers and facilities offering youth-friendly MH, HIV (testing, ART and PrEP) and family planning (FP) services. The program targeted stigma reduction, awareness creation, and service accessibility through tailored outreach, interpersonal group therapy (IPT-G), and subsidised service delivery.

Methods: Study design: A quasi-experimental design with non-equivalent comparison groups was used to compare intervention and control groups in three counties (Mombasa, Kilifi (intervention sites) and Kwale (control site)) which have a high prevalence of HIV. Data were collected from 1,874 AYP through surveys, facility records (HIMS database for the period between January 2021 and July 2024), and qualitative interviews to evaluate empowerment, self-esteem, depression, and service awareness.

Results: We employed propensity score matching and key findings included: AYP in the intervention arm were significantly more likely to report MH empowerment (91.0% vs. 68.9%), self-esteem (68.3% vs. 60.3%), and behavioral improvement (95.2% vs. 91.5%) compared to the control arm ($p<0.001$); MH awareness and knowledge were higher in the intervention arm (65.8% vs. 33.6%, $p<0.001$), and IPT-G sessions led to a significant reduction in moderate-to-severe depression (51.6% to 1.7%, $p<0.001$) and Factors influencing outcomes included age, employment, internet access, and facility engagement.

Conclusions: The integration of technology-based MH interventions into HIV programming shows significant potential to improve MH outcomes among AYP. MH and HIV service integration can reduce stigma, enhance empowerment, and promote service uptake. Future efforts should focus on scaling the intervention, strengthening community engagement, and addressing structural barriers to sustain long-term impact.

EP0862

Layering mental health screening and treatment on HIV prevention, care, and treatment improves access to pre-exposure prophylaxis among adolescents and young people in Mombasa County

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Background: The integration of mental health (MH) screening and treatment into HIV prevention programs has the potential to improve access to critical HIV services, including Pre-Exposure Prophylaxis (PrEP). In Kenya, adolescents and young people (AYP) aged 15–24 years face significant barriers to accessing these services, often exacerbated by untreated mental health conditions. This programme, funded by the Elton John AIDS Foundation (EJAF) and implemented by Tiko, aimed to address these challenges in Mombasa County by layering MH interventions with HIV prevention, care, and treatment services to improve PrEP uptake and adherence. he programme, implemented between May 2022 and April 2023, targeted AYP in Mombasa and Kilifi counties in Kenya including among key populations (KPs) such as people who inject drugs, sex workers, and men who have sex with men (MSM).

Methods: Quantitative and qualitative data were collected through client surveys, facility surveys, focus group discussions (FGDs), and key informant interviews (KIIs). The quasi-experimental design compared outcomes in Mombasa with Kwale County, a non-intervention control site

Results:

1. AYP in Mombasa demonstrated significantly higher awareness of MH services (46% vs. 26% in Kwale) and PrEP services. They also scored higher on MH empowerment (mean score: 26.0 vs. 24.1; $p<0.001$).
2. New PrEP enrollments in Mombasa increased substantially during the intervention period, compared to no significant change in Kwale.
3. More AYP in Mombasa accessed PrEP alongside MH services, demonstrating the programme's success in linking these interventions.
4. Among AYP completing six IPT-G sessions, 74.5% achieved remission, with only 1.7% still experiencing moderate depression post-treatment.
5. Despite progress, stigma and lack of privacy in some facilities remained key barriers to PrEP and MH service uptake, particularly for younger AYP and those in key populations.

Conclusions: Layering MH interventions onto HIV prevention programs is an effective strategy to increase PrEP uptake and improve mental health outcomes among AYP. Future efforts should focus on strengthening the integration of MH screening and treatment within existing HIV service delivery platforms.

EP0863

U.S. client preferences to inform same-day HIV pre-exposure prophylaxis programs in medicaid expanded and non-medicaid expanded states - a discrete choice experiment

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Background: Human-centered approaches are needed to increase oral same-day HIV pre-exposure prophylaxis (PrEP) prescriptions and reduce disparities in HIV incidence in the United States (US). This study explored client preferences for same-day PrEP programs in three states that have and have not expanded access to the US public insurance program Medicaid.

Methods: Clients receiving care from clinics serving underserved communities in Illinois (Medicaid-expanded) and Alabama and Texas (Medicaid non-expanded) com-

pleted electronic discrete choice experiment surveys. Attributes included location (community clinic, primary care provider, health department, pharmacy, urgent care), first PrEP dose method (starter pack, prescription, injection), follow-up (in-person, phone), and visit cost (free, $10, $20, $30). Surveys were built in Sawtooth. Data were analyzed in NLogit using a conditional logit model with interactions [state, ever-used PrEP].

Results: 120 surveys were completed. Clients were mean (SD) 32 years old (8), 74% (N=89) male, 66% (N=79) Black, 12% ever-used PrEP, and 48% from Medicaid-expanded states. Visit cost was the most important attribute (Relative Importance = 58%) for same-day PrEP programs, regardless of Medicaid expansion status *(Figure 1)*. Medicaid-expanded state clients were less likely to choose the same-day PrEP programs offered (β=0.33, p=0.0003). Ever PrEP users were willing to pay $30 for visits compared to never PrEP users (β=0.37, p=0.0029). Ever-used PrEP clients did not prefer any offered same-day PrEP programs (β=0.36, p=0.024).

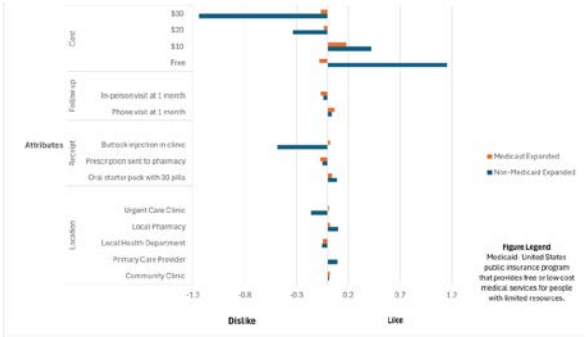


Figure 1. Preferences for same-day PrEP programs from United States clients in medicaid expanded and non-medicaid expanded states (N=120).

Conclusions: Broad strategies are needed to promote same-day PrEP programs. While ever-used PrEP clients did not have preferences likely due to their familiarity with visits, visit cost was the most important attribute to clients. Economic policies may potentially mitigate structural barriers (e.g. insurance coverage) that impact client PrEP use decisions. Policies making same-day PrEP affordable can increase PrEP uptake. Collaboration with multiple stakeholders on economic policies may also facilitate same-day PrEP program implementation by relieving misplaced burdens on community PrEP programs.

EP0864

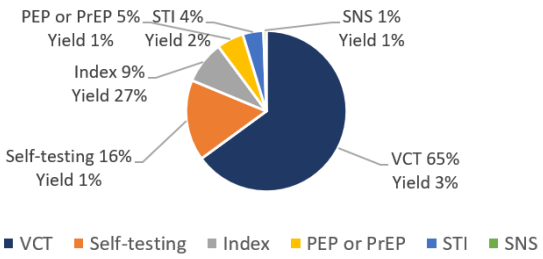
Diversifying HIV testing choices to increase case finding targets in five Brazilian cities, 2024

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Background: The Time is Now Project, implemented by Fiocruz with PEPFAR funding, supports differentiated HIV testing choices in five cities to expand HIV case finding in Brazil. In 2015, the project introduced HIV-self testing (HIVST) as a pilot initiative and now offers six distinct case-finding models: HIVST mail delivery, index testing, voluntary counselling, and rapid testing in health facilities (VCT), during PEP, PrEP and STI consultations, and social network strategies (SNS).

Description: These modalities of HIV testing are provided free of charge across five cities: Campo Grande, Curitiba, Florianopolis, Fortaleza, and Porto Alegre. In FY2024, the project conducted 29,000 HIV tests identifying 1,156 positive cases. Among the number of PLWHA identified, 65% (575/885) were through VCT, 16% (144/885) via HIVST screening, 9% (76/885) through index testing, 5% (48/885) during initial PrEP/PEP screening, 4% (37/885) after STI screening, and 1% (5/885) through SNS *(Graphic 1)*. Data came from site confirmatory testing records and national health systems.



Graphic 1. HIV testing: Contributions and positivity by modality, Brazil. July - Sep 2024.

Lessons learned: HIV positivity and population group reached varied by testing modality. Higher volume and positivity of tests occurred among MSM *(Graphic 2)*.



Graphic 2. HIV testing and yield by population, Brazil. July - Sep 2024.

Index testing yielded the highest positivity rate at 27% *(Graphic 1)*, effectively identifying cases among heterosexual men and individuals with advanced disease.
Higher positivity rates of HIVST were found among transpeople (3.1%; 3/96) and women over 40y.o. (4.3%; 2/46).
Conclusions/Next steps: HIVST is an important entry point for individuals who don't access health facilities. Index testing provides highly effective cases identification. A diversity of HIV testing options is complementary to reach various populations. Refining SNS strategies could enhance positivity rates.

EP0865

Implementing short-course tuberculosis preventive therapy (1HP) among People living with HIV in routine program setting, Andhra Pradesh, India, 2024

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Background: India accounts for 26% of tuberculosis (TB) cases and 6.3% of people living with HIV (PLHIV) globally. India's National TB Elimination Program recommends using a one-month TB preventive therapy (TPT) regime of daily isoniazid plus rifapentine (1HP). To enhance TPT completion rates compared to that of conventional six-month isoniazid monotherapy (6H), 1HP was initiated in select high-burden antiretroviral therapy clinics (ARTC) in Andhra Pradesh to document implementation feasibility and outcomes, i.e., TPT initiation and completion.
Description: In nine ARTC, we trained the staff on technical and operational aspects of 1HP, reporting tools, follow-up of adverse events, and treatment completion. Indications for 1HP initiation included: PLHIV with negative TB four-symptom screen, history of contact with drug-sensitive TB, aged >13 years, and on ART regimens other than protease inhibitors. From July-October 2024, ARTC counsellors contacted PLHIV by phone on day 14 of TPT to assess pill adherence and monitoring of side effects of 1HP.
During the subsequent ART pill pick-up visit, counsellors confirmed the completion of 1HP pill intake and PLHIV were actively asked to recall the number of pills missed during the latest week to cross-check adherence.
We analyzed routine program data to determine 1HP initiation and completion rates and compared them to historical (July-October 2023; n= 1,421) 6H completion rates.
Lessons learned: A total of 3,391 eligible PLHIV were initiated on 1HP. The median age was 43 (IQR:35-50) years, 52.4% were female, and 2.1% were newly initiated on during the period. Gender distribution and median age were similar among those initiated on 6H. By November 2024, 97.3% (3,302/3,391) completed 1HP; 89 did not complete: lost to follow-up (LFU) (40), death (13), transferred out (10), and discontinued due to side effects (26). Common side effects reported were nausea, vomiting, and tingling. The 1HP completion rates (97.3%; CI: 94.1-100) were significantly higher ($p<0.05$) than that of 6H [90.4% (149/1,421); CI: 90.0- 90.8). Discontinuation due to LFU (31%), transfer out (15%), died (1%), side effects (hypersensitivity, hepatotoxicity) 42%.
Conclusions/Next steps: PLHIV on 1HP demonstrated higher completion rates compared to 6H within routine program setting. National programs may consider offering 1HP at ART clinics to all eligible PLHIV.

EP0866

Making PrEP smart: persistence, use, and acceptability of a PrEP adherence and HIV-self testing app among women in the South Bronx, New York City

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Background: HIV pre-exposure prophylaxis (PrEP) is underutilized by cis- and transgender women and adherence to PrEP is often suboptimal despite high HIV burden, especially among Black and Hispanic women. Smartphone technologies hold promise for supporting PrEP adherence but have not been evaluated extensively among women.
We conducted a 12-month pilot study in the South Bronx to assess acceptability and self-reported PrEP adherence among diverse HIV-negative women.
Methods: Adult transgender or non-pregnant cis-gender, PrEP-eligible women who reported inconsistent PrEP adherence or use for <3 months were eligible. Participants received PrEP (TDF/FTC or TAF/FTC), free HIV self-testing (HIVST) kits, and downloaded the "SmartPrEP" app which sent personalized daily adherence queries.
PrEP adherence was classified as ≥6, 3-5 and <3 self-reported weekly doses. App acceptability was scored by quarterly interviewer-administered questionnaire (1 lowest, 5 highest).
Results: From February 2022 to August 2023, 40 participants enrolled (median age 30 years), 70% (n=28) identified as cisgender women, 30% (n=12) as transgender women, 48% (n=19) as Hispanic, 35% (n=14) as Black; 83% (n=33) were not currently taking PrEP.
At baseline, 35% (n=14) believed they were at risk of HIV, despite 90% (n=36) reporting ≥1, and 25% (n=10) ≥ 4 HIV risk behaviors in the past 6 months. PrEP adherence was heterogenous, with 3% (n=1) reporting ≥6 doses/week, 17% (n=7) reporting 3-5, and 80% (n=32) reporting <3 doses/week (Figure).
Only 10% (n=4) conducted HIVST via SmartPrEP. Mean app acceptability score was 3.9 with 93% of participant responses endorsing the app. Median duration of follow-up was 180 days, with one HIV seroconversion and three pregnancies occurring over follow-up.

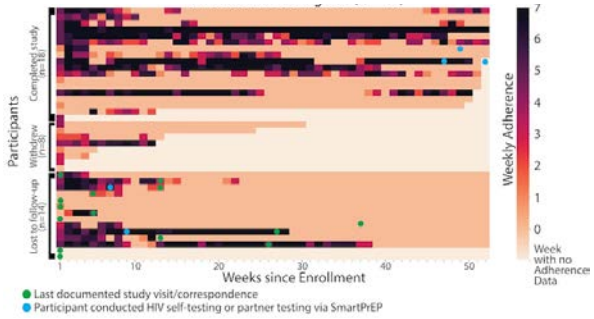


Figure. Heatmap of weekly PrEP adherence (# "yes" responses to daily dosing query per week) and HIV self-testing use (n = 40).

Conclusions: The study found low HIV risk perception and heterogenous PrEP adherence over 12 months of observation among these women at elevated risk of HIV, despite high app acceptability. As long-acting PrEP formulations become available, addressing gaps in risk perception among women remains critical.

EP0867

Perceptions of long-acting Lenacapavir as an alternative to HIV vaccine among cisgender female sex workers in Abuja, Nigeria

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Background: Cisgender female sex workers in Nigeria face significant barriers to HIV prevention; hence the need for innovative solutions. Long-acting lenacapavir offers a promising alternative to an HIV vaccine, addressing gaps in adherence and access.
This study assessed the perception of cisgender female sex workers on the use of Lenacapavir for HIV prevention as well as the barriers to its adoption.
Methods: This study adopted a cross-sectional design to obtain responses from 122 randomly sampled cisgender female sex workers in Abuja, Nigeria in January 2025 using a validated 24-item questionnaire. Their awareness of long acting lenacapavir, perception and beliefs as well as possible barriers, challenges and preferred rollout strategies were assessed. Descriptive and inferential analyses were used to summarize the study's findings. Ethical approval was obtained from the Institutional Review Board.
Results: A total of 110 cisgender female sex workers responded to the questionnaire (90.1 % response rate) with 67 (60.9%) being single and 45 (40.9%) have been a sex worker for 1-5 years. The Majority, 108 (98.2%), has not heard about lenacapavir as a long-acting HIV prevention method. Only 22 (20%), believe lenacapavir could serve as an effective alternative to an HIV vaccine with only 3 (2.7%) *very confident* in lenacapavir's ability to prevent HIV over six months. Almost half, 52 (47.3%), cited cost as a possible challenge that might prevent them from using lenacapavir and 78 (70.9%) think their community will accept lenacapavir. The majority, 94 (85.5%), think their community would be open to trying Lenacapavir as an early alternative to vaccine.
Conclusions: The majority of cisgender female sex workers are unaware of long-acting lenacapavir for HIV prevention, with only a small proportion expressing strong confidence in its effectiveness over six months. Cost remains an important barrier that could hinder widespread adoption.
To bridge this gap, stakeholders should prioritize further research, particularly focusing on willingness-to-pay studies and other economic considerations within this population, to inform tailored interventions and policy decisions that enhance accessibility and uptake.

EP0868

Retention on PrEP among highly vulnerable young women: identifying barriers and leveraging opportunities to improve adherence

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Background: Pre-exposure prophylaxis (PrEP) is a key tool in reducing the risk of HIV transmission among vulnerable young women. However, low retention rates compromise the effectiveness of this intervention. This study explores the barriers to retention and identifies opportunities to enhance adherence in this target population.
Description: The analysis focused on an open cohort of 114 young women aged 21 to 24. Each participant was observed over a 12-month period during which they could choose to discontinue PrEP. Retention rates were calculated at months M1, M3, M6, M9, and M12. Reasons for discontinuation were grouped according to themes and presented as percentages.
Lessons learned: After 12 months, 46 participants had discontinued PrEP. Retention rates were 97% at M1, 94% at M3, 92% at M6, 80% at M9, and 60% at M12. The perception of no longer being at risk (54%) was the primary reason for discontinuation, accounting for more than half of the cases. Migration of participants outside the project's intervention zone represented 35% of discontinuations. Although less frequent (9%), side effects influenced retention on PrEP. Intimate partner violence accounted for 2% of PrEP discontinuations. Between the initiation of PrEP and the first month (M1), three participants stopped PrEP due to side effects such as itching, abdominal pain, and general fatigue.
Conclusions/Next steps: The data indicates that the perception of no longer being at risk of HIV (54%) and migration outside the intervention zone (35%) are the main reasons for discontinuing PrEP, highlighting the need for continuous education and addressing structural barriers. Although less frequent, side effects (9%) and intimate partner violence (2%) underscore specific clinical and psychosocial needs.

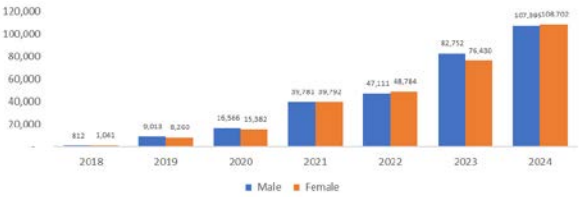
These findings emphasize the importance of strengthening PrEP education, ensuring service availability and continuity for mobile populations, and developing integrated strategies to address the medical and psychosocial needs of clients. By addressing these barriers, it is possible to improve retention and maximize the impact of PrEP on HIV prevention.

EP0869

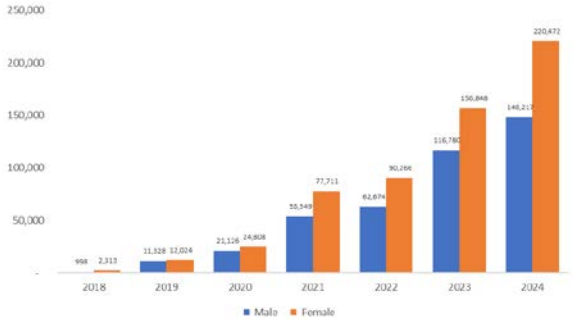
Optimizing uptake of HIV pre-exposure prophylaxis among men through effective demand generation and male-friendly services in Zambia

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Background: The 2021 ZAMPHIA reported 28,000 new HIV infections which declined to 23,000 in 2023 according to UNAIDS. New infections are driven mainly by heterosexual sex between HIV positive men 25+ and adolescent girls and young women aged 15-24 (AGYW).
Engaging men, who tend to shun health services, to uptake pre-exposure prophylaxis (PrEP) is critical to reducing HIV infections and pushing Zambia towards epidemic control.
This requires impactful a male-friendly services to increase uptake of PrEP among men aged 25+.
Description: PrEP was introduced in 2018 in Zambia with initial implementation seeing low uptake. In 2019, the Zambia Ending AIDS strategy emphasized the importance of taking control of one's sexual health to avert HIV acquisition. Demand generation was coupled with differentiated service delivery of PrEP, taking services out of HIV clinics into other service delivery platforms in the community.
Male community-based volunteers were capacitated to disseminate key messaging on PrEP and male healthcare providers were recruited for men's clinics as part of male-friendly service provision.
Lessons learned: In 2018, PEPFAR Zambia initiated 3,311 individuals on PrEP including 812 men aged >25 (25%), compared to 1,041 femen aged >25 (31%).
PrEP demand generation through Zambia Ending AIDS campaign in 2019 resonated with men, with PrEP initiations among men >25 surpassing women >25 with 9,013 and 8,260 respectively.



Since 2018, PEPFAR Zambia has initiated 999,114 individuals on PrEP, with men >25 accounting for 30% (303,430).



Conclusions/Next steps: If men utilize PrEP and avert new infections, it in turn reduces the number of new infections among AGYW.

EP0870

Diversifying PrEP delivery choices to enhance PrEP access in two cities of Brazil, 2020-2024

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Background: The Time is Now (A Hora e Agora) Project, implemented by Fiocruz with PEPFAR funds, supports differentiated pre-exposure prophylaxis (PrEP) service delivery choices in Florianopolis and Curitiba to expand oral PrEP access in Brazil. Since 2020, it has provided telehealth appointments and online messaging, with oral PrEP and HIV self-tests (HIVST) by mail delivery. By 2024, Curitiba and Florianopolis provided oral PrEP to around 2,500 and 2,660 users respectively.
Description: In 2020, Florianopolis began offering private online messaging between oral PrEP users and providers, using standard forms. Online messaging allows PrEP users to use services at their convenience, including non-business hours and weekends. STI screenings and online HIVST assistance are also offered. As another DSD model, Curitiba offers live virtual appointments through a city telehealth center since 2022. During TelePrEP, clients are supported to perform HIVST, followed by appropriate counseling and up to 120-day supply of oral PrEP by mail delivery. Both models include trained nurses, pharmacists, and doctors as prescribers. In 2024, HIVST home delivery was included for PrEP initiation, with clients sending results via digital photos for verification.
Lessons learned: In 2021, HIV specialized public health services comprised 96% of PrEP offer in Curitiba and 100% in Florianopolis. In 2024, TelePrEP was responsible for 53% of PrEP prescriptions in Florianopolis and 23% in Curitiba. Considering the first year of DSD PrEP offer, the number of young PrEP new users (15-24 y.o) in Florianopolis rose 145% (2020-2021), and in Curitiba, it was 47% higher (2022-2023). In both cities, DSD models were adapted based on existing healthcare infrastructure, available resources, and local contexts.
Conclusions/Next steps: The implementation of TelePrEP and PrEP-delivery integrated with HIVST were key factors contributing to the expansion of PrEP in both cities.

Further opportunities remain to use these approaches to address inequities in access among the transgender community, sex workers, and individuals using psychoactive substances. The choice for PrEP delivery by mail has still potential to be expanded, with the use of targeted social media.

EP0871

PrEP Choice in the real world: understanding preferences among sexually and gender-diverse youth in Northeastern Brazil

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Background: Real-world experience with PrEP, including injectable long-acting cabotegravir (CAB-LA) option, is essential for guiding policy and practice. Understanding the decision-making process behind selection methods is crucial to improving uptake, retention, and effectiveness. We investigated choice patterns in PrEP modalities among sexually and gender-diverse adolescents and youth in northeastern Brazil.
Methods: Qualitative research nested in the ongoing PrEP15-19 Choices cohort, which offers participants both oral PrEP (event-driven or daily) and CAB-LA.
Between Sep-Dec/2024, we conducted 25 in-depth interviews with twelve participants using oral PrEP, and 13 using CAB-LA. Interviews covered housing, education, motivations, side effects, family relationships, PrEP choices and experiences. Thematic content analysis was conducted with NVivo-15.
Results: Participants were men who have sex with men (17), transgender women (8), and non-binary (1).Most participants were in school (76%, 19) and identified as Black or Brown(92%, 23). Of the 13 who chose CAB-LA, seven were aged 16–17, and six were aged 18–20.
In contrast, oral PrEP was preferred by 9 of 12 participants aged 18–19. Four distinct decision-making processes regarding PrEP modality were identified: 1-participants offered both modalities and opting for oral PrEP; 2- participants offered the same options and choosing CAB-LA; 3- participants who initially used oral PrEP but later transitioned to CAB-LA; and 4 - One participant, on oral PrEP since 2023. The narratives of group 2 highlighted family conflicts, including discriminatory cultural or religious practices, worsened by storing pills at home.
Participants valued CAB-LA's convenience, practicality, and ability to avoid daily pill use and the risk of forgetting doses. Switching from oral PrEP to CAB-LA also offered greater privacy and reduced family-related conflicts (group 3).
The main reasons for group 1 were needle aversion or concerns about side effects. Event-driven PrEP was often linked to scheduled or sporadic sexual activity.
Conclusions: The choice of PrEP modalities was affected by participants' previous experience with oral PrEP, ability to manage potential conflicts posing risk to privacy and confidentiality, and concerns about pain and side-effects. These findings underscore the need for health policies and interventions providing diverse PrEP options and tailoring to the specific needs and contexts of young people.

EP0872

Targeted identification and enrollment of high-risk adolescent girls and young women (AGYW) and association of HIV risk and program outcomes DREAMS Rwanda

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Background: Despite global HIV incidence declines, high infection rates among adolescent girls and young women (AGYW) persist. HIV prevalence among AGYW in Rwanda is 3.7% and young women aged 20-24 are five times more likely to be HIV-positive than their male peers. PEPFAR's DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) program aims to reduce HIV rates among AGYW in high-burden settings. Rwanda is among the few countries that have achieved the UNAIDS 95-95-95 targets. As Rwanda approaches the UNAIDS 2030 target of ending the HIV epidemic, precision prevention programming for priority populations, e.g. AGYW, is essential to close gaps in new infections and achieve epidemic control.
Description: Since 2018, Rwanda has implemented DREAMS, reaching 163,236 AGYW with combination prevention programming across five districts. The Rwanda Data Tracking System (RDTS) tracks AGYW identification, eligibility assessment, enrollment in activities and services, and monitoring of service provision.
Enrollment is based on a variety of risk and vulnerability factors with targeted strategies to identify those at highest risk of HIV.
Lessons learned: A descriptive analysis of DREAMS program data from FY21 to FY24 provided insights into risk profiles of enrolled AGYW. Among 574 identified AGYW who tested positive upon entering the program, 53% were aged 20-24, 44% were 15-19, and 3% were 10-14. Of these, 61% had one risk factor/ vulnerability, 15% had two, 8% had three, and 12% had four to nine. Risks and vulnerabilities included inconsistent condom use (30%), sexual violence (23.5%), transactional or intergenerational sex (15.6%), school dropout/non-attendance (15.6%), alcohol use (12%), history of pregnancy (21%), and orphanhood (11%). USAID Rwanda is conducting further analysis to identify patterns related to HIV risk and program outcomes among AGYW.
Conclusions/Next steps: Findings underscore diverse levels of complex and overlapping HIV risk and vulnerability factors among AGYW enrolled in DREAMS and the need

for tailored interventions. Results can enhance combination HIV prevention strategies targeting AGYW, ensuring greater efficacy, impact, and sustainability. While findings are specific to Rwanda, other high-burden countries in the region may benefit from lessons learned in Rwanda.

EP0873

Leveraging A/B testing for scalable and cost-effective HIV prevention programs in Botswana

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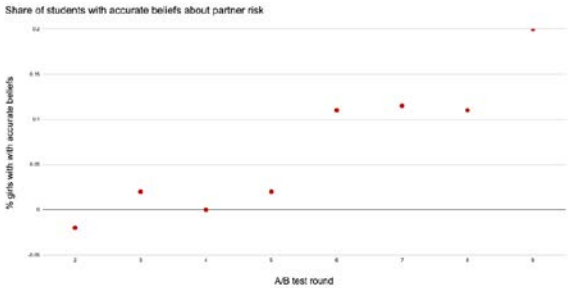
Background: Botswana has one of the world's highest HIV prevalence rates, with adolescent females being disproportionately affected. To address the challenge of reducing HIV risk while maintaining cost-effectiveness at scale, Youth Impact implements and studies a school-based Adolescent Sexual and Reproductive Health program for girls in Botswana. Using randomized A/B testing, the program refines intervention components, assesses scalability, and optimizes impact to improve adolescent girls' health outcomes.

Description: The program targets adolescent girls in junior secondary schools across Botswana, a key population at risk of HIV. It includes a proven 90-minute in-school session designed to inform girls about relative partner risk and safe dating strategies. Since 2016, Youth Impact has employed randomized A/B testing each school term to iteratively optimize the program's impact and cost-effectiveness. Key alternatives to the standard approach have been tested, including variations in group composition, curriculum messaging, and booster sessions. The program is delivered in collaboration with schools and local government stakeholders.

Lessons learned: A/B testing revealed effective and scalable strategies for program delivery, including:

- Mixed-sex groups of boys and girls, which proved as impactful as girls-only sessions while being more scalable.
- Simplified messaging, which enhanced impact at minimal additional cost.
- Cost-effective booster sessions, which significantly increased program effectiveness.

Over half of Youth Impact's A/B tests have resulted in more than a 20% improvement in program cost-effectiveness, marking a remarkable achievement.



Conclusions/Next steps: A/B testing is a valuable implementation science tool for scaling HIV prevention programs. It enables iterative refinement to support high-quality implementation at scale, adapt to new contexts, and improve cost-effectiveness. Youth Impact will expand the program to additional regions and countries and is actively supporting other organizations in using A/B testing to enhance their programs' scalability and cost-effectiveness. These findings underscore the importance of real-time evaluation and rapid, evidence-based decision-making in scaling impactful HIV prevention interventions.

EP0874

Peer-led tailored biosocial support and sexual health engages sexually active adolescents and young adults in rural South Africa: Thetha Nami (Lets' Talk) cluster RCT process evaluation

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Background: The Thetha Nami (Let's Talk) trial in rural KwaZulu-Natal, South Africa, uses peer-led social mobilization to engage adolescents and young people (AYP) aged 15-30 with decentralized sexual and reproductive health (SRH) services, including HIV care and prevention. Peer navigators assess health, social, and educational needs and facilitate referrals to mobile clinics. A mixed methods process evaluation, conducted from July 2023 to December 2024, assessed the intervention's implementation

Methods: The process evaluation, based on the RE-AIM framework, used quantitative and qualitative methods. Routine programmatic data were collected electronically to evaluate uptake, reach and dose. In-depth interviews (N=49 AYP, N=22 with implementation staff) field observations, and group discussions (n=4) provided insights into intervention fidelity and participants' experiences. Qualitative data were transcribed, translated from IsiZulu to English, and analysed thematically.

Results: The intervention was feasible. Peer navigators reached 17,241 (70% of all AYP), 8110 males (47%), 9131 (53%) females, for health promotion and needs assessments. Engagement increased intervention acceptability, improved SRH knowledge, and helped AYP recognize themselves as candidates for tailored HIV prevention, including PrEP. N=212 (1%) AYP declined peer support. Case-based management and follow-ups by peer navigators facilitated linkage to care. A total of 4039, 1696 males (42%), 2343 (58%) females, were referred for mobile clinic visits by peer navigators. N=3600 (89%) were unaware of their status and underwent point of care HIV testing with 139 (4%) newly diagnosed and starting ART. N=1823/3461 (53%)

were at risk of HIV acquisition and offered oral PrEP, of which 1083 (59%) initiated use, with the others not accepting PrEP. N=51 have taken up PEP 25 males (49%) and 26 (51%) females. N=5876 were screened for STIs, with 1060 (18%) treated; 932 received contraceptives. Interviews with AYP found that community stigma towards SRH service use for AYP persists.

Conclusions: Peer-led biosocial support and sexual health services effectively engage AYP at high HIV risk. However, stigma, challenges with daily pill regimens, and low risk perception limit uptake, particularly of PrEP. The high uptake of HIV and STI testing highlights the need for accessible SRH services, including long-acting PrEP, for AYP.

EP0875

Simplified and diversified Pre-Exposure Prophylaxis (PrEP) services for key populations in Tajikistan, 2024

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Background: Alarmingly, new HIV acquisitions are on the rise in Central Asia including Tajikistan, where key populations (KP) are at disproportionate risk for HIV. In 2020, the national program introduced fully subsidized pre-exposure prophylaxis (PrEP) to be provided exclusively to people visiting public facilities in person. To increase access, the Republican AIDS Center (RAC) committed to simplify and diversify PrEP services aligned with 2022 WHO guidance.

Description: In late 2023 the RAC, with the United States Centers for Diseases Control and Prevention (CDC) support, convened the first national technical working group (TWG), comprised of healthcare workers, funders, community members, and other stakeholders, to update the 2020 PrEP guidelines. The TWG worked in an iterative process to first identify gaps in PrEP eligibility, broadening from men who have sex with men alone to all born male and, for the first time, anyone requesting PrEP. Policies requiring in-person visits to public facilities and HIV testing were revised to include fully remote tele-PrEP, HIV self-tests, PrEP provision by any medical facility for initiation and continuation. The TWG developed a phased implementation plan, including coordinated responsibilities and timelines for demand creation, training, and monitoring and evaluation.

Lessons learned: Updated guidelines were launched in November 2024, followed by jointly training the initial cadre of clinical and community healthcare workers. Within a day of training, the first client in the country started tele-PrEP. Lessons learned included having a diverse, cohesive TWG with RAC leadership to ensure contextualization of global best practices to remove potential barriers and acceptability of guidelines at all levels; a community-engaged approach; a realistic, shared implementation timeline; and sustainability of the new policies. Co-training clinical and community staff helped build referral systems and collaborations important for demedicalized service delivery.

Conclusions/Next steps: To our knowledge, Tajikistan's 2024 PrEP guidelines are the most permissive in Central Asia, with implementation ongoing. Allowing for broad PrEP eligibility and fully remote service has the potential to overcome common barriers, including stigma and transportation, to increase PrEP access and curb the rise in new HIV acquisitions.

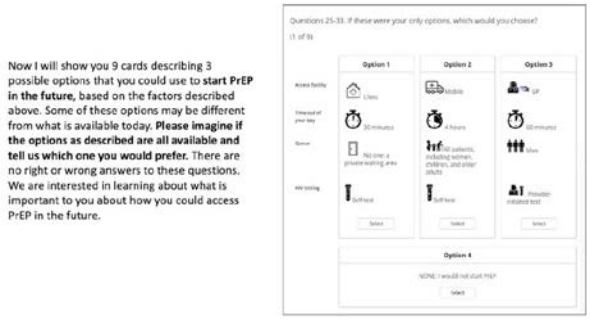
EP0876

Preferences for PrEP initiation services among men in rural South Africa: a discrete choice experiment

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Background: In rural areas of Mpumalanga Province, HIV prevalence exceeds 9% for men by age 24, yet HIV testing, awareness of currently available and investigational pre-exposure prophylaxis (PrEP) methods and use of oral PrEP are low. Men in this setting use clinics infrequently. Understanding men's preferences for PrEP methods and service delivery can inform implementation.

Methods: We conducted a cross-sectional survey with a population-based sample of men aged 18 - 34 in rural Bushbuckridge, South Africa; 313 of 324 eligible individuals (96.6%) consented and 300 reported negative or unknown HIV status. We used latent class analysis to analyze a discrete choice experiment assessing preferences for health service attributes to initiate current or future PrEP methods (Figure).



Results: We identified 6 classes of PrEP initiation preferences, with the largest (27%) preferring not to initiate PrEP under the choices provided (opt out). Facility type and time required were the most important attributes for all remaining classes. Three classes expressed preference for government facilities: 24% who prioritized shorter time required and favored clinics as well as mobile facilities, 7% with similar preferences but more frequent opt

outs, and 22% who prioritized facility type with a strong preference for clinics. 13% of respondents prioritized time required and favored clinics, mobile facilities, or pharmacies, and 7% preferred private doctors and pharmacies as well as shorter time required. Two thirds of respondents reported multiple sexual partners in the past 12 months and 60% had heard of PrEP; proportions did not differ across classes.

Conclusions: Men aged 18 to 34 in a setting of high HIV exposure indicated varying preferences for health services for PrEP initiation. This evidence supports the role of public facilities along with differentiated delivery models to extend PrEP access to young men in high prevalence rural settings.

EP0877

Potential of long-acting pre-exposure prophylaxis (PrEP) to increase PrEP uptake amongst key populations in Cameroon

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Background: HIV prevalence continues to be disproportionately higher amongst key populations (KPs) in Cameroon, with prevalences ranging from 17 to 30%. While oral pre-exposure prophylaxis (PrEP) has been implemented for KPs since 2019, low uptake and high discontinuation rates have been persistent.

This study assessed the potential of long-acting injectable (LAI) antiretrovirals (ARV) to improve PrEP uptake and retention amongst KPs in Cameroon.

Methods: This was a cross-sectional study implemented by the Integrated Research Education and Support Group, and the Care and Health Program in community-based organizations (CBOs) across five regions in Cameroon from July to October 2023, using an exhaustive consecutive sampling technique. Pre- tested, structured tablet-based questionnaires were administered to female sex workers (FSWs) and men who have sex with men (MSM), injectable drug users (IDU) and transgender individuals(TG) by trained research assistants based in the CBOs. Data analysis was done using SPSS.

Results: We recruited 1140 participants, comprising FSWs (75.2%), MSM (23.3%), IDU (1.2%) and TG (O.3%). Overall, 55.9% were on oral PrEP; with 50.3% FSWs and 76.3% MSM on PrEP. Discontinuation from PrEP was accounted mainly for by forgetfulness (51.1%), being displaced (33.3%), and daily pill burden (26.6%).

Among PrEP eligible participants who were not on oral PrEP (503), 82.4% indicated willingness to enroll in injectable PrEP option if available.Furthermore, 62.3% of those on oral PrEP preferred to switch to LAI PrEP and 60.6% of them reported it LAI would improve their adherence.

To showcase strong interest in LAI PrEP, about 40% of participants indicated willingness to co-pay for LAI PrEP if made available, irrespective of free oral PrEP.

Conclusions: This study shows a high potential for LAI PrEP to improve PrEP program uptake and adherence amongst KPs, especially amongst those eligible but not on oral PrEP. HIV program managers in Cameroon and decision makers should consider adopting LAI PrEP in KPs to avert the disproportionately higher HIV incidence in this KPs and ultimate HIV epidemic control in Cameroon by 2030.

EP0878

The doors are open but they are not here! ongoing barriers to pre-exposure prophylaxis (PrEP) among Black and Latinx sexual and gender minoritized (BLSGM) individuals in Long Beach, California, USA

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Background: Long Beach ranks third in California health jurisdictions with the highest HIV case rates. Despite three PrEP Centers of Excellence and robust HIV prevention efforts, BLSGM individuals are overrepresented among new HIV diagnoses and have low PrEP engagement. Using a community-engaged equity approach and implementation science (IS) framework, we sought to identify persistent barriers to PrEP uptake.

Methods: Study aims and instruments were co-created with community-driven PrEP and transgender wellness workgroups (including individuals living with HIV). Survey items were guided by PRISM domains - recipient perspectives/characteristics (RP/C), implementation infrastructure (II), and external environment (EE), and included PrEP use, PrEP intent, perceived HIV risk, and PrEP barriers. HIV-negative BLSGM individuals, ages 18-35, were engaged through referrals and street intercept from 12/1/23 to 08/15/24.

Forty-three barriers were dichotomized and prospectively coded as Healthcare Access (8 variables), and PrEP Appropriateness (7), Knowledge (3), Side Effects (10), and Stigma (15). Researchers used SPSS 27 Automated Linear Model procedure to identify variables with the greatest predictive power for positive PrEP intent. The Perceived HIV Risk Scale score was included in the final model.

Results: Among 262 respondents, 40.8% were Black/African American and 59.2% were Latinx. The mean age was 26.79 years, and 34.8% reported a gender identity other than cisgender, and 75.9% reported a sexual identity other than heterosexual.

Most (89.3%) never used and 10.7% discontinued PrEP. Low intention to use PrEP ("Unlikely/Very Unlikely") was expressed by 49.8%, while 28.4% said they were "neutral," and 21.8% indicated they were "likely/very likely" to initiate PrEP.

Barriers Predicting PrEP Intent (Item type; IS domain)	n	t-test	p
No close friends are taking PrEP (Stigma; RP/C)	56	t(170) = -3.88	p < 0.001
Discomfort talking to PrEP Navigator (Stigma; RP/C)	65	t(135.4*) = -4.13	p < 0.001
Lack of health insurance (Healthcare Access; II & EE)	14	t(241) = 2.85	p = 0.005
Belief hard to tell sex partner(s) about PrEP (Stigma; RP/C)	43	t(246) = -2.77	p = 0.006
Belief friends would not be supportive of PrEP (Stigma; RP/C)	40	t(64.1*) = -3.97	p < 0.001

** Levene's test showed that the variances were not equal.*

Conclusions: The relevance of PrEP stigma-related variables in predicting PrEP intention highlights the importance of recipient/community-level interventions focusing on stigma reduction and social support for PrEP uptake. Findings also suggest that those who may have higher PrEP intentions are unable to follow through due to perceived implementation and external structural barriers. Improved implementation strategies related to PrEP accessibility and cost are still needed.

EP0879

Inequalities in access to and retention of HIV pre-exposure prophylaxis: a comparative analysis of public and private services in Brazil (2018-2023)

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Background: In 2021, the Brazilian Ministry of Health began allowing private doctors to prescribe PrEP as part of a strategy to increase its use. This study aimed to analyze the sociodemographic profile and linkage to PrEP units in Brazil, comparing public and private healthcare facilities to identify usage patterns and factors associated with discontinuation.
Methods: A cross-sectional study was carried out using data from the Medicines Logistics Control System (Siclom), Ministry of Health, covering the period from 2018 to 2023 and including users who received at least one oral PrEP dispensation in that period. Users who were not dispensed PrEP at a public pharmacy in 2023 were considered to be discontinued. The variables analyzed included sociodemographic characteristics (age group, race/color, schooling, gender identity) and type of service (public/private).
The analyses used Pearson's chi-square test to assess associations between the variables, considering statistical significance for $p<0.05$.
Results: Between 2018 and 2023, 77,445 users were taking PrEP in Brazil, with 92.2% in the public sector and 7.8% in the private sector. Gay men and other men who have sex with men predominated, being more frequent in the private sector (93.4% versus 82.9%; $p<0.001$).
Users in the private sector had a higher level of education (90.3% with 12 years or more versus 69.1%; $p<0.001$) and a higher proportion of whites (70.6% versus 53.8%; $p<0.001$). The chance of staying on PrEP when follow-up was carried out in the private sector was 1.4 times higher. The public service mostly served individuals with greater presumed social vulnerability, with 45.7% and 30.9% of black people and less than 12 years of schooling ($p<0.001$).
Conclusions: The analysis revealed that the public service offers PrEP more equitably, with a higher proportion of black people and lower levels of education, while the private sector concentrates users with higher levels of education and presumed higher income, as well as a lower discontinuation rate.
These findings reinforce the importance of strategies in the public sector to promote greater retention and equity in access, strengthening the universal and inclusive role of the Brazil's public health (SUS) system as a public policy.

EP0880

Navigating choices: anticipated drawbacks to PrEP modalities among sexual and gender diverse adolescents in Brazil

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Background: Long-acting injectable PrEP (LAI-PrEP) addresses challenges associated with daily adherence. However, there is limited research on factors influencing adolescents' preferences for different PrEP modalities.
We aimed to analyze anticipated drawbacks to choosing (LAI-PrEP) and event-driven PrEP (ED-PrEP) among sexual and gender diverse adolescents in Brazil.
Methods: The PrEP15-19 Choice´s implementation study offered oral PrEP (daily and ED-PrEP) and LAI-PrEP using cabotegravir as a choice to cisgender men who have sex with men (MSM), transgender and non-binary (NB) people aged 15 to 19 in three Brazilian cities.
Adolescents enrolled in PrEP between October 2022 and January 2025 were surveyed about anticipated drawbacks to choose LAI-PrEP and ED-PrEP before selecting their preferred modality.
Descriptive statistics identified the most cited drawbacks, and associations with participants' characteristics were analyzed using Pearson's chi-square or Fisher's exact test.
Results: We included 344 adolescents. The most frequently anticipated drawbacks for LAI-PrEP were concerns about pain (49.4%), potential side effects (49.1%), and the need to take oral PrEP during the "tail period" after discontinuing LAI-PrEP (39.5%).
Attending the clinic every two months for LAI-PrEP was a drawback for adolescents with higher risk perception ($p=0.002$) and prior PrEP use ($p=0.04$). Discussing LAI-PrEP with a partner was a concern for transgender women ($p=0.025$). Adolescents with a partner using PrEP have fewer concerns about discussing LAI-PrEP with their partner ($p=0.03$).
For ED-PrEP, the primary drawbacks were the need to anticipate sexual activity (66.3%) and remember the correct dosing regimen (57.3%). Black adolescents ($p=0.01$), those with lower schooling ($p=0.02$) and PrEP-naïve individuals ($p=0.008$) expressed difficulty remembering the correct use of ED-PrEP. PrEP-naïve adolescents were concerned about side effects for ED-PrEP ($p=0.007$).
Adolescents in non-family-based housing ($p=0.006$) and those who are in stable relationships ($p=0.001$) were worried about the visibility of taking the pill.

Conclusions: Anticipated drawbacks can play a critical role in adolescents' decisions to initiate PrEP. Addressing these concerns is vital to reduce barriers and tailor PrEP interventions to the diverse needs of adolescent subgroups.

EP0881

Optimizing access to sexual and reproductive health commodities through vending machines: a demand creation approach for adolescents and young people in South African TVET campuses

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Background: Higher Health, under the Global Fund Adolescents and Young People (AYP) Programme (2022-2025), aims to enhance access to HIV prevention and sexual and reproductive health (SRH) services for AYP aged 15-24 within TVET campuses across 13 sub-districts. The initiative seeks to address barriers to SRH commodity access by deploying 37 vending machines, offering a core package of essential services to improve uptake and adherence to SRH interventions.
Description: The AYP Programme targets in and out-of-school AYP, with engagement of adolescent boys and young men. The vending machine initiative provides free SRH commodities, including condoms, lubricants, pregnancy tests, and sanitary towels, to enrolled AYP through a unique six-digit PIN system. AYP access services via an enrolment process involving Health and Wellness Counsellors (HWCs) and a centralized monitoring platform (Softwin 3).
The demand creation strategy incorporates campus-based awareness campaigns, peer education, and risk assessment to enhance uptake and promote continued engagement with SRH services.
Lessons learned: Quantitative evaluation conducted after two implementation quarters revealed that; across 37 TVET campuses, total of 18,750 AYP accessed the vending machines, with an average of 507 AYP per campus. Male condom uptake accounted for 56% of total dispensed commodities, followed by sanitary towels (22%), lubricants (10%), and pregnancy tests (7%).
Disaggregated data indicated significant uptake in urban campuses (68% of total usage) compared to rural settings (32%), highlighting differential demand creation effectiveness. PIN-linked usage data showed 73% of AYP with high-risk profiles accessed multiple commodities monthly, suggesting effective targeting. Average of 4.5 refills per campus were required quarterly, with higher replenishment rates for male condoms and sanitary towels, indicating critical demand trends. A post-usage survey among 4,500 AYP reported an 89% satisfaction rate, with key drivers including privacy, accessibility, and variety of commodities.
Conclusions/Next steps: The vending machine initiative demonstrated significant potential in improving SRH commodity accessibility for AYP, with positive uptake and user satisfaction metrics. Efforts will focus on optimizing stock replenishment, expanding vending machine placement to after-hours accessible locations, and integrating additional commodities such as HIV self-testing kits to meet evolving AYP needs. Strengthened demand creation strategies, particularly in rural campuses, will be prioritized to ensure equitable service reach.

EP0882

Interventions created by clients and healthcare providers to support persistence on long-acting cabotegravir pre-exposure prophylaxis in Malawi: a human-centered design approach

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Background: The public health roll-out of long-acting injectable Cabotegravir pre-exposure prophylaxis (CAB-LA) in Malawi began in March 2024. Community collaborations to develop interventions to sustain use and limit drug resistance are essential for injectable HIV prevention success.
Methods: Clients, providers, government, and researchers collaborated to co-design CAB-LA persistence support interventions in Malawi using rigorous, iterative, human-centered design research. From March-July 2024, we gathered and synthesized extant PrEP persistence evidence and insights from Ministry of Health officials, literature, and CAB-LA providers via group discussions and prioritization exercises. We also drew on Malawi's pre-product formative research data.
Key knowledge gaps were transformed into guiding questions for co-creation workshops. A 4-day workshop was held in August 2024 with oral and CAB-LA clients (n=17) and CAB-LA providers (n=12). Through participant-led exercises such as journey maps and rapid analysis, this workshop identified and prioritized intervention components.
In September 2024, during a 2-day follow-up workshop, clients (n=7 discontinued CAB-LA, n=6 discontinued oral PrEP, n=2 active PrEP users) and providers (n=10) created intervention prototypes.
Results: Discontinuation trajectories identified during the workshop included stopping CAB-LA due to:

1. Stigma concerns,
2. Ending a relationship where HIV acquisition was a possibility,
3. Poor provider-client interactions,
4. Undesirable side effects, and
5. Hours of CAB-LA injection availability conflicting with client workhours/livelihoods.

HCD participants also emphasized that confidentiality is critical for clients in any HIV prevention interaction, peers are highly influential in health decision-making, and feasible interventions cannot add burden to healthcare workers' heavy workload.

The final, designed interventions and mechanisms of action included:

1. Trustworthy, facility-based expert client offering information and social-emotional client support while promoting PrEP visibility and acceptance;
2. Improving provider-client empathy, communication, and warm reception through client feedback, recognition of health worker achievement and provider training;
3. Early clinic opening to enable PrEP services outside of standard hours.

Conclusions: Clients and providers created individual, inter-personal, and structural interventions operating across multiple mechanisms to support sustained use of CAB-LA.

Other injectable HIV prevention programs should consider the relevance of similar mechanisms and levels of action. The created interventions will be tested in a cluster randomized trial in early 2025.

EP0883

Challenges and lessons learned in transitioning the voluntary medical male circumcision (VMMC) program from PEPFAR to MoH in Mozambique

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Background: In 2021 Mozambican MoH began implementing plan to progressively take over operations and management of VMMC sites with support from International Training and Education Center for Health (I-TECH), Health Resources and Services Administration (HRSA) funded PEPFAR partner. We aim to describe this process and highlight best practices and challenges for effective and sustainable transition of VMMC services from PEPFAR-supported to MoH.

Description: Six sites were identified in four provinces. I-TECH supported MoH through coordination across stakeholders, creation of metrics to monitor the transition and technical assistance (TA) to troubleshoot unforeseen challenges, both clinical and non-clinical. This support aided MoH capabilities to maintain high quality VMMC services including monitoring of outcomes, management of adverse events, and demand generation.

To map best practices and ensure sustainability of the transition process, we assessed activities against six WHO Health System Building Blocks.

Lessons learned: MoH led planning and consultations at multiple system levels, including creating taskforce for specific assignments, led to rapid absorption and integration of VMMC services into health facilities' standard operations, including supply chain and allocation of human resources. Co-development of Transition Guide for VMMC Services with MoH will standardize the procedures for transitioning operations.

Sites allocated clinicians (circumcizers) but not counsellors and activists, who play critical roles in client follow-up and demand creation. Not hiring these staff led to decrease in procedures after transition.

Transitions highlighted the need for VMMC clinicians to receive initial on-spot training and mentoring. Upon providing this support, service quality assessments showed that sites had maintained service quality equal to observed in non-transitioned sites and in pre-transition period. Low service uptake followed by infrastructure maintenance and hiring of non-state cadre personnel constituted challenge for services sustainability. Lack of budget for demand creation activities resulted in I-TECH's involvement in supporting community mobilization activities, providing transportation voucher for outreach activities, non-coercive incentives to clients for adequate hygiene practices and hiring counsellors.

Conclusions/Next steps: This experience shows the feasibility of transitioning VMMC services to MOH in low resource settings and importance of closely monitoring the transition to identify programmatic activities that may need higher levels of support during transition.

Implementation research to scale up treatment

EP0884

Scale of differentiated service delivery implementation in HIV care facilities in low- and middle-income countries: a global facility survey

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Background: In 2016, the World Health Organization recommended differentiated service delivery (DSD) as a client-centered approach to simplify HIV care in frequency and intensity, thus reducing the clinic visit burden on individuals and HIV programs. We describe the scale of DSD implementation among HIV facilities in low- and middle-income countries (LMICs).

Methods: We analysed facility-level survey data from HIV care facilities located in LMICs that participated in the International epidemiology Databases to Evaluate AIDS (IeDEA) consortium in 2019. We used descriptive statistics to summarize availability of any DSD, multi-month dispensing (MMD), and DSD for HIV treatment models.

Results: We included 175 facilities in the Asia-Pacific (n=30), Latin America (n=8), Central Africa (n=21), East Africa (n=74), Southern Africa (n=28), and West Africa (n=14).

Overall, 133 facilities (76%) reported implementing DSD, ranging from 26% in the Asia-Pacific to 93% in East Africa. Of these, 91% offered DSD for HIV treatment, 61% for HIV testing, and 59% for antiretroviral therapy (ART) initiation. The most common duration of ART refills was 3-month dispensing, (70%), followed by monthly (14%) and 6-month dispensing (10%). Facility-based individual models were the most frequently available DSD for HIV treatment model (82%), followed by client-managed group models (60%) *(Figure)*.

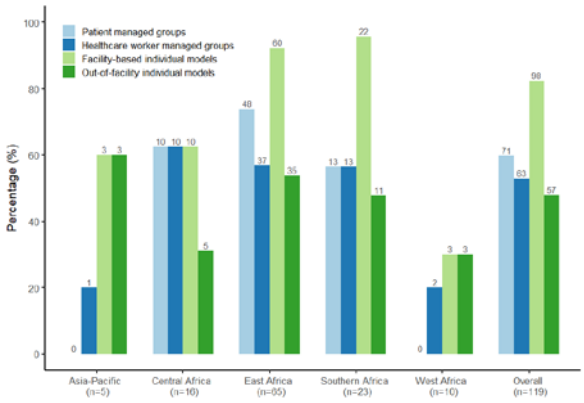


*Figure. Availability of DSD for HIV treatment models in IeDEA-participating facilities (n=119) by region in 2019. *Footnote: None of the participating facilities in Latin America reported providing DSD for HIV treatment.*

Conclusions: In 2019, DSD was available in most IeDEA-participating HIV care facilities but was not evenly implemented across regions and HIV services. Most facilities offered facility-based DSD for HIV treatment models and 3-month dispensing for clinically stable clients. Efforts to expand DSD in HIV testing and ART initiation and to offer longer MMD can improve long-term retention in care of people with HIV in LMICs, while further alleviating the operational burden on healthcare services.

EP0885

Innovative HIV care in Zambia: implementation research on telemedicine as a key DSD strategy for supporting people living with HIV (PLHIV) and epidemic control by 2030

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Background: Zambia, with 1,348,041 People Living with HIV as of 2022, has made progress toward UNAIDS 95-95-95 targets, achieving 88.7% diagnosis, 98.0% treatment, and 96.3% viral suppression among People Living with HIV(PLHIV) aged 15-59. However, critical gaps remain among adolescents and young people (AYP) aged 15-24, where diagnosis, treatment, and viral suppression rates are considerably lower at 75%, 74%, and 70%, respectively. These disparities and challenges in traditional healthcare models necessitate innovative solutions like telemedicine to enhance access and support Zambia's 2030 epidemic control goals.

Description: The Morehouse School of Medicine's Telemedicine Initiative in Zambia (June 2021–July 2024) established a hub-and-spoke network connecting major healthcare centers with local clinics via digital platforms. This model enabled real-time video consultations, reducing healthcare client travel distance and improving rural access to HIV care. Supporting 11,244 PLHIV, the program utilized the mobile health platforms to conduct video consultations by clinicians utilizing the national Electronic Health Record system, and Smartcare.

In collaboration with Zambia's Ministry of Health, NGOs, and tech companies, the project emphasized healthcare provider training, community engagement, and secure data management. Key outcomes included a 82% improvement in ART adherence, 82% achieving viral suppression, a 90% increase in care retention, a 95% rise in Healthcare Client engagement, 98% data accuracy, and a 80% improvement in early diagnosis, which refers to the timely identification of virally unsuppressed PLHIV through telemedicine.

Lessons learned: The initiative highlighted the importance of robust infrastructure, comprehensive provider training, community engagement to build trust, and phased implementation for smooth integration.

Conclusions/Next steps: The telemedicine initiative demonstrates how digital health solutions can bridge HIV care gaps in underserved areas, directly supporting Zambia's 2030 HIV goals and UNAIDS targets.

It underscores the need for integrating telemedicine into national strategies, providing a replicable model for other regions and sectors. The program's success emphasizes the importance of sustainability strategies, digital inclusion, and scaling telemedicine to reduce global healthcare inequities.

EP0886

One-year retention and viral suppression among people living with HIV accessing care through Community Retail Pharmacy Drug Distribution Point model at a district hospital in Uganda

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Background: Uganda's HIV prevalence has declined from 18% in the 1982 to 5.5% in 2022, with 1,290,000 persons living with HIV (PLHIV) on Antiretroviral treatment (ART). The increasing number of PLHIV in care has overwhelmed the national health system, with overcrowding, long waiting times, missed appointments, and suboptimal retention. The Uganda Ministry of Health (MoH) introduced the Community Retail Pharmacy Drug Distribution Points (CRPDDP), as one of the differentiated service delivery models to decongest health facilities, improve efficiency, convenience and client centered care while maintaining service quality.

This study evaluated retention and viral load suppression at one year, and associated factors among PLHIV enrolled on the CRPDDP model in a Ugandan rural district hospital.

Methods: This cross-sectional study was conducted at Iganga District Hospital, where the CRPDDP model was piloted from October 2021. Using a census approach, data from 360 PLHIV enrolled in the CRPDDP model for at least one year ago were analyzed. Retention and viral load before and after one year of enrollment, and associated factors were assessed using descriptive statistics and regression analysis.

Results: The mean age of the participants was 43.51 (±9.77) years, most participants were female (62.22%) and married (60.63%). The retention of PLHIV in the model was 94.72% (95% CI: 91.89–96.79). Nineteen (5.2%) PLHIV had dropped out of the model at the time of the data analysis: one lost from care, two relocated, and 16 returned to facility-based care. The mean viral load count before enrollment was 63.20 copies/mL (95% CI: 56.33–70.09) and 96.33 copies/mL (95% CI: 43.31–149.36) after enrollment, but this increase was not statistically significant (p=0.2228). Participants on the second-line ART regimen were less likely to be retained compared to those on the first-line regimen (aRR = 0.63, 95% CI: 0.41-0.95, p=0.028).

Conclusions: The CRPDDP model sustained high retention and effective viral load suppression at one year among PLHIV at a rural hospital, highlighting its potential as a

viable alternative to traditional facility-based ART distribution. However, PLHIV on second-line ART regimens were less likely to be retained, suggesting a need for tailored interventions for this subgroup.

EP0887

Enhancing viral load suppression and disclosure rates through multidisciplinary case conferences in Eastern Province, Zambia: a retrospective study

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Background: Despite antiretroviral therapy (ART) advancements, viral load suppression and HIV disclosure rates remained suboptimal, particularly among paediatric and adolescent populations. Multidisciplinary case conferences (MDCCs) offer a collaborative approach to addressing these challenges. Through the Sungani Bana Initiative, Multi-disciplinary case conferences are offered to all children with a High Viral load and/or identified as having Poor adherence to ART. The initiative is aimed at ensuring continuity in Care and improved health amongst children and adolescents living with HIV (CALHIV) through case management driven support toward better treatment outcomes.
This retrospective study evaluated the effectiveness of Multi-Disciplinary Case Conferences in improving viral load suppression and disclosure rates among HIV-positive individuals aged between 1-19 years in Eastern province that were enrolled in Sungani Bana Initiative.
Methods: Case conferences, led by Case managers at the health facility in collaboration with Caseworkers, Guardians and key stakeholders in the child life were conducted over a duration of time, usually 3-4 months for those with High Viral load and up to 6 months for Disclosure and Adherence challenges. A total of 98 children were enrolled in the Case conferencing package under the initiative. Training for 112 Healthcare workers in Age-Appropriate Disclosure and Adherence facilitation methodologies from across the Sungani Bana Implementation sites was also conducted in addition to Bi annual trainings of Case managers and Caseworkers in Case management was conducted.
Results: 1. Viral Load Suppression: Increased from 89% pre-implementation to 96% at 12 months, 97% at 24 months and 98% at 36 months post implementation.
2. Disclosure Rates: Improved from 40% to 85% at 36months. With 100% Disclosure rates for those graduating out of the initiative by age.
3. Correlates of Success: Stronger family support, improved adherence demonstrated by fewer missed appointments, and enhanced healthcare provider communication.
Conclusions: MDCCs significantly improve viral load suppression and disclosure rates among CALHIV. This multidisciplinary approach enhances patient outcomes, fosters supportive environments, and informs evidence-based interventions.
This study recommends the integration of MDCCs into HIV care protocols, enhanced healthcare provider training on communication and family-centred care and strengthening community support systems for CALHIV.

EP0888

Assessing the organizational readiness in using unstructured supplementary service data (USSD) to support treatment outcomes for adolescents living with HIV transitioning to adult care at Umodzi Family ART Clinic

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Background: Adolescents living with HIV (ALHIV) encounter significant challenges transitioning to adult care, which can adversely affect their retention, drug adherence, and viral load suppression. Evidence suggests that mobile health interventions, particularly those utilizing Unstructured Supplementary Service Data (USSD), can enhance HIV knowledge and improve treatment outcomes. In Malawi, the rise in mobile phone penetration has led to the adoption of several USSD applications in healthcare. However, there are currently no USSD interventions tailored specifically for ALHIV. A proposed USSD application aimed at enhancing treatment outcomes for this population is being developed.
This study therefore aimed to assess the organizational readiness of the Umodzi Family ART Clinic to implement such a platform
Methods: This qualitative exploratory study was conducted between November 2023 and March 2024 at the Umodzi Family Clinic in Blantyre, Malawi, focusing on healthcare workers and ALHIV transitioning to adult care. We conducted nine in-depth interviews with healthcare professionals and facilitated three focus group discussions (FGDs) involving thirty-two ALHIV. All interviews and FGDs were recorded, transcribed verbatim, and analyzed using NVivo 14 software, guided by the theory of organizational readiness to identify key themes.
Results: Our findings indicate a strong willingness among ALHIV and healthcare workers to use the application to improve treatment outcomes during the transition to adult care. Key features like access to key treatment information and reminders were recognized as vital for enhancing adherence, retention, and viral suppression. The presence of digital platforms at the facility, widespread mobile access among ALHIV, and the facility's prior experience with digital health initiatives were major facilitators for the App's success.
Nevertheless. enhancements in privacy, security, interoperability, and overall app design were highlighted as critical features for successful app adoption.
Conclusions: The results indicate a strong willingness to adopt the suggested application to improve treatment results. Our results underscore essential pillars of organizational readiness that are vital in designing and implementing mHealth applications. The study's results are critical for developing and implementing USSD applica-

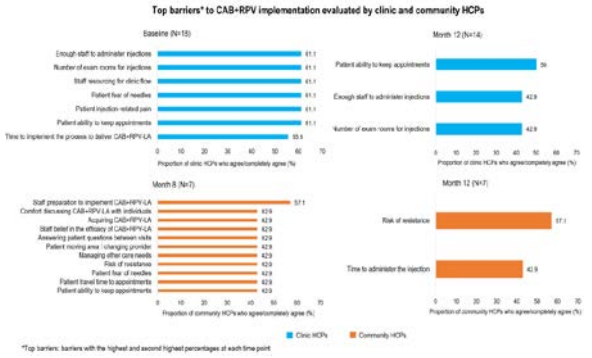
tions to support treatment outcomes for ALHIV transitioning to adult care. Nevertheless, design, privacy, and interoperability remain fundamental in successfully developing and deploying mHealth applications.

EP0889

Perspectives of healthcare providers on long-acting injectable cabotegravir and rilpivirine delivery in clinic and community settings in the UK: longitudinal survey findings from the ILANA study

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Background: Delivery of long-acting injectable cabotegravir and rilpivirine (CAB+RPV-LA) in community settings may relieve capacity pressures on clinics, but there is limited evidence on implementation. We conducted surveys with healthcare providers in the clinic (HCPs) and community (CHCPs) as part of the first study about delivery of CAB+RPV-LA in community settings in the United Kingdom.
Methods: ILANA is a 12-month implementation study where people with HIV received 2-monthly CAB+RPV-LA in clinic for months (M) 1-6, then in clinics or community settings for M6-12. Longitudinal survey data from providers are reported from M0 (HCPs only), M8 (CHCPs only) and M12 (both groups).
We present descriptive analyses of endpoints: Feasibility of Intervention Measure (FIM), Acceptability of Intervention Measure (AIM), and Intervention Appropriateness Measure (IAM), and implementation barriers.
Results: 25 staff participated – 18 HCPs and 7 CHCPs. 28.0% doctors, 68.0% nurses; 68.0% - mostly nurses – administered CAB+RPV-LA injections.
Among both groups, mean FIM/AIM/IAM scores for delivering the injection in their treatment setting were high (>4) at M0/M8 and M12. Among HCPs, FIM/AIM/IAM mean (SD) scores improved M0-M12, by +0.61 (1.16), +0.38 (1.07) and +0.61 (1.09), respectively. Among CHCPs, FIM mean (SD) scores improved slightly M8-M12 by +0.20 (0.33), while AIM/IAM mean (SD) scores declined slightly by -0.15 (0.65) and -0.15 (0.49), respectively.
Among HCPs, top barriers at M0 were patient-, site- and injection-related (all 61.1%, N=18) (Figure 1). At M12, the top barrier was patient ability to keep appointments (50%, N=14). Among CHCPs, the top barrier at M8 was staff preparation (57.1%, N=7). At M12, it was risk of drug resistance (57.1%, N=7).



Conclusions: Feasibility, acceptability, and appropriateness of CAB+RPV-LA delivery is high among HCPs and CHCPs, but barriers to implementation differ over time and by setting. Sample size and missing data mean cautious interpretation is required. Nevertheless, findings offer insights for optimising CAB+RPV-LA in different settings.

EP0890

Improving HIV-related knowledge and reducing stigma attitudes in healthcare settings among medical and nursing students participating in the HIV S&D e-learning, a piloted project in 10 universities in Thailand, 2024

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Background: People living with HIV (PLHIV) have reported discrimination from healthcare providers. In Thailand, medical and nursing students have displayed moderate HIV knowledge, with some holding stigmatizing attitudes toward PLHIV. We evaluated HIV-related knowledge and

stigma attitudes before and after participating in the Ministry of Public Health (MOPH) Stigma & Discrimination (S&D) e-learning program.

Methods: Thailand's MOPH and universities adapted the HIV S&D e-learning video from DriStri for Thai audiences. The 90-minute video consists of six modules covering topics, including S&D definition, its impact on the HIV epidemic, and universal precautions, 25 pre-/post-test questions (17 knowledge questions and eight stigma attitude questions on a Likert scale, where 1 is no stigma). We ensured that only questions with a reliability alpha of >0.7 were included.

A convenience sample of medical and nursing students from ten schools in Bangkok, Nonthaburi, and Chonburi participated from June to July 2024, completing online pre-/post-tests before and immediately after the modules after providing electronic consent. SPSS software was used to analyze changes in attitudes and knowledge scores.

Results: The survey included 811 students: 241 (30%) third and fourth-year medical students and 570 (70%) first and fourth-year nursing students. Of the participants, 88% were female. Compared to the pre-test and post-test, HIV knowledge scores improved from 9.44 to 15.26 ($p < 0.001$). HIV stigma scores decreased (14.6 vs. 11.9, $P<0.001$), including the discomfort level in providing services to PLHIV, concerns about contracting HIV, and negative attitudes toward HIV and key populations. Year 3 and 4 students had higher knowledge scores (15.4 vs. 15.0, $P<0.001$) and lower stigma attitudes than first-year students (11.4 vs. 12.9, $P<0.001$).

More than 90% of the students reported being highly satisfied with the e-learning modules and suggested shortening the video and including the "Undetectable = Untransmittable" message in the materials.

Conclusions: After participating in the S&D e-learning program, students demonstrated an increase in their HIV knowledge scores and a decrease in S&D attitude scores. The students reported high levels of satisfaction with the S&D e-learning program. The MOPH plans to simplify the video based on feedback and expand this program to enhance S&D reduction in health facilities.

EP0891

Expanding access to HIV care for migrants in host countries - a new mechanism for scaling up treatment

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Background: Despite the political context, migrants from EECA continue travel to Russia. At the same time, according to the Russian Law on Prevention the Spread of HIV, migrants who have been diagnosed with HIV, should leave the country. But many migrants are unable to return to their home countries due to different factors and majority of them remain in host nation undocumented. Lack of access to health services, including Global Fund programs, instigates health deterioration of migrants with HIV and contributes to development of epidemic in EECA countries.

Description: In 2021, the Steps Fund, in cooperation with the Regional Expert Group on Migration and Health, initiated and implemented a new unique approach for providing treatment to people in migration — "A mechanism for remote registration and treatment". The essence of the model is an option for people with HIV being in migration to register at AIDS Centers in the country of origin remotely and receive ART and monitoring without returning home. This model ensures the provision of continuous care anywhere in the world.

Lessons learned: This strategy has shown high-quality results — remote registration and treatment model has been launched in several countries of the EECA: Moldova (2021), Tajikistan, Kyrgyzstan (2022), Kazakhstan, Uzbekistan (2024). By 01.2025 the Steps Fund assisted to remote registration for 68 migrants and became a reliable hub for the point of ART delivery from countries of origin.

Migrants with HIV undergoing remote monitoring show high adherence and reach undetectable viral load (Figure). This model can be replicated to other regions and diseases.

Viral load measurement

	At the beginning of the program	After 1 year in the program
P1	68 000	53
P2	84 478	0
P3	160 000	0
P4	63 000	0
P5	1 700	0
P6	5 720	0
P7	850 000	0
P8	10 000	0
P9	1 800 000	0
P10	110 000	0
P11	3 021 070	584
P12	100 000	214
P13	800 000	0
P14	31 588	100
P15	280	0
P16	49 555	0
P17	1 400	0
P18	25 000	0

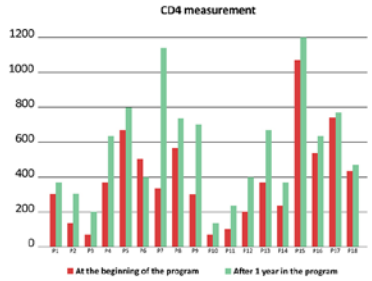


Figure. Measuring dynamics of key indicators of "Remote registration and treatment" program sample participants - migrants with HIV - implemented by Steps Fund

Conclusions/Next steps: This model is unique and shows high efficiency. Receiving ART from the country of origin is a sustainable health care delivery model, especially in countries that do not provide treatment to migrants. It prevents epidemiological consequences for the entire region. Cross-border collaboration is essential in preventing the spread of HIV.

EP0892

Leveraging community systems strengthening to increase HIV client enrolment into differentiated service delivery (DSD) models in Western Zimbabwe 2023-2024

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Background: Differentiated Service Delivery (DSD) models are integral to achieving universal health care, particularly in the context of chronic disease management for people living with HIV (PLHIV). These models have been developed to provide tailored care based on a client's specific health status, social situation, and treatment goals, yet client enrolment in these models remains a challenge in rural Zimbabwe.
Description: To increase enrolment in DSD in Mashonaland West Province, 90 Community Health Advocates (CHAs) were employed, and 18 Community Consultative Dialogues (CCDs) were conducted between January and August 2024. These feedback sessions with PLHIV, health care workers, and local leadership helped to identify current barriers to DSD enrolment.
After the CCDs, CHAs served as facilitators to improve linkages between health facilities and the community, conducting outreach activities, providing education, and assisting clients in navigating the DSD enrolment process.
Lessons learned: CCDs identified internalised stigma and discrimination as the major barriers to DSD enrolment. Community engagements by CHAs improved client understanding and acceptance of DSD, enhanced credibility and reduced stigma associated with enrolment.
Within the first 6 months the program referred a total of 1,336 clients for DSD enrolment, and 91% (1,213) enrolled. Comparing with the previous six months clients that were referred for DSD enrolment increased by 622% (1336) from t185 clients. DSD enrolment data indicated a strong preference for flexible service delivery options such as family refill (34%), community-based ART refill groups (22%) and fast track (15%).
Also used by clients were club refill groups (11%) and the Malaicha model (0.01%), a new DSD model adapted for Anti-Retroviral Therapy (ART) refills for migrant PLHIV living outside Zimbabwe, hence promoting effective avenues for ART medication collection for migrant PLHIV.
Conclusions/Next steps: CCDs highlighted the valuable role of continuous feedback in adapting enrolment strategies to align with community needs and preferences in tackling systemic barriers to DSD enrolment, such as stigma and can ensure that community members possess equitable knowledge about DSD. Emphasizing this approach not only can enhance enrolment outcomes but also can foster an inclusive environment for everyone to access and benefit from these vital services.

EP0893

Differentiated service delivery for viral load in Zimbabwe

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Background: HIV programs in high-burden settings have scaled differentiated service delivery (DSD) models, reducing reliance on facility settings for key HIV services. Viral load (VL) testing is essential for managing HIV. However, healthcare worker (HCW) time, shortages contribute to challenges with timely VL sample collection. Dried blood spots (DBS) tests are widely used for VL testing in low-resource settings as an alternative to plasma-based tests. DBS testing for other purposes such as early infant diagnosis of HIV has been successfully task-shifted to community health workers and other community lay cadres (CLCs).
To inform potential DSD models for VL, this study assessed the feasibility and acceptability of CLC collection of DBS samples for VL testing in Zimbabwe as compared to DBS sample collection by trained HCWs.
Methods: This study was conducted in 10 public health facilities in Zimbabwe over 6 weeks in March-April 2024. Two DBS samples were collected from 374 participants; a HCW-collected reference sample and a CLC-collected validation sample. A sub-sample of CLC collections were observed using a checklist, and surveys were conducted with both participating clients and CLCs.
Results: No DBS samples were rejected by the laboratory, but two samples (one HCW-collected and one CLC-collected) were classified as invalid. Of the 372 paired tests analyzed, 96.0% (95% CI 93.2-97.7%) of pairs had matching results (i.e. both designated as suppressed or unsuppressed). Among observed CLC sample collections, all critical items in the checklist were done properly in 90.2% (95% CI 85.7-94.7%).
All CLCs reported that they were confident to conduct DBS sample collection correctly, and 94% and 86% of clients were open to CLC and community-based sample collection, respectively.
Conclusions: VL DBS results for samples collected by CLCs were comparable to the results from samples collected by HCWs, and CLCs demonstrated the ability to correctly and effectively collect VL DBS samples. Clients reported CLC and community-based sample collection to be acceptable and even preferred for many.
Results from this assessment indicate that task-shifting VL DBS sample collection to CLCs is a feasible strategy. This opens opportunities to explore community-based DBS sample collection as a form of DSD.

EP0894

User preferences of ART Differentiated Service Delivery Model in Zimbabwe: a discrete choice Experiment

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Background: The Antiretroviral Therapy (ART) Differentiated Service Delivery (DSD) model represents a significant shift in HIV care, aiming to enhance treatment adherence and client satisfaction. Traditional ART delivery often results in overcrowded facilities and disengaged clients which can hinder effective treatment. The DSD model was introduced to provide tailored services that better align with the diverse needs of people living with HIV(PLHIV). Even after such efforts the uptake of DSDs has remains low.

Methods: This study employed a mixed-methods approach, combining quantitative surveys in 25 districts form August 2022-July 2023. A Discrete Choice Experiment (DCE) survey was administered to PLHIV from various districts, combining desk reviews and interviews. 75 Community HIV/AIDS Support Agents (CHASAs), who are community members living with HIV, were trained to collect data via questionnaires using the CommCare data collection platform.

Random sampling technique was used to obtain current or potential users of DSD models as they left the facility after their ART pick-up or after concluding their support group meetings.

The sample size per CHASA was proportional to the contribution that each facility made to the total number of people on ART in the 75 selected facilities.

Results: 2056 PLHIV were interviewed, 95% knew about DSDs and 77% were in DSD models. Results indicated a strong preference for flexible service delivery options, such as Community-based Art Refill Groups (CARGs)(53%), fast track(25%) and family refill(15%). In urban areas fast track model was more prolonged than the CARGs while in rural settings CARGs are more prominent.

Community systems strengthening played a pivotal role facilitating the enrolment of clients into DSD models 68% had been in DSD models for between 1-2 months. 71% of clients wanted to change or join different DSD models with 25% moving to fast track, 20% CARGS and 16% family, respectively. PLHIV reported in DSDs increased satisfaction and improved adherence

Conclusions: To optimize the ART DSD model, it's essential to expand partnerships with community organizations can facilitate outreach and support for underserved populations. Implementation research is needed to continuously assess client preferences and outcomes, ensuring that the DSD model evolves to meet the changing needs of those on ART.

EP0895

Implementation of Vietnam's first mobile application for self-monitoring and management of ARV treatment in people living with HIV in Ho Chi Minh City (2022-2024)

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Background: Ho Chi Minh City (HCMC) is home to approximately 48,000 people living with HIV (PLHIV) receiving antiretroviral therapy (ART), representing one fourth of all PLHIV on ART in Vietnam. Given the large population and the complexity of managing ARV treatment, there is a growing need for efficient and innovative solutions that support PLHIV in self-monitoring and managing their health. To address this need, iCare, a mobile health application, was developed and launched in HCMC in 2022 for the first time in Vietnam.

Description: The iCare system is interoperable with Electronic Medical Record (EMR) in HCMC, enabling real-time synchronization of treatment data. iCare provides PLHIV with access to ARV treatment-related and essential health information, including appointments and medication reminders, explanations of HIV-related lab results, and an interactive chatbot. Additionally, the app facilitates appointment rescheduling and virtual consultations for app users.

Lessons learned: As of November 2024, of 29 outpatient clinics (OPCs) in HCMC implementing iCare, 61.7% (26,951/43,713) PLHIV on ART have used the iCare app. The coverage of iCare app users varies across OPCs, regardless of when the app implementation began. When grouping OPCs by duration of implementation (6 months, 1 years, 1.5 years, and 2 years), clinics that implemented the app for 6 months show the highest coverage (65%), while those that have implemented it for 2 years show the lowest coverage (25.5%). The highest coverage (99.5%) was observed among 951 PLHIV on ART at OPC Phu Nhuan, which has implemented the iCare app for 6 months.

Conclusions/Next steps: The iCare app has attracted a significant number of users, covering over three-fifth of the PLHIV on ART in HCMC. However, varying coverage

across OPCs underscores the need for further evaluation to understand why coverage remains low at OPCs where the app has been implemented for a longer period. An evaluation is planned for early 2025 to evaluate the app's effectiveness in improving treatment outcomes, gather user feedback, and gain insights on its implementation. Additionally, efforts will be made to expand the app's coverage in HCMC and explore opportunities for extension to other provinces.

EP0896

Interest in long-acting injectable antiretroviral therapy (ART) among adults living with HIV newly starting or restarting ART in Cape Town, South Africa

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Background: Long-acting injectable ART (LA ART) has been shown to be safe and effective for people living with HIV (PLH), and superior among those with adherence challenges to oral regimens.
As such agents become more accessible, understanding perceptions in different population groups is crucial for effective implementation.
Methods: As part of a cross-sectional survey at two large peri-urban clinics in Cape Town, South Africa, adults starting or restarting ART responded to a Likert scale question about their interest in LA ART. This was followed by an open-ended question completed by all participants to comment on their response. We thematically coded the open-ended text and used descriptive statistics to describe responses including variations by gender and start/restart status.
Results: Among 329 participants (61% women; 71% restarting ART; median age 39 years), 242 (74%) responded that that would be very interested in trying LA ART, 51 (15%) were somewhat interested or unsure, and 36 (11%) were not interested. Common reasons for interest in LA ART were to avoid daily tablets and the perceived convenience of injections. Participants spoke specifically about removing the stress over daily adherence, which would save time and "free your mind" to concentrate on other things. Participants valued the discretion of not carrying pill bottles so "no one will know" about them and felt that having the injection "in their system" would make them more consistent with their treatment. Concerns about LA ART included fear of injections and potential side effects. Some respondents preferred to hear about experiences from other people using LA ART before making their own decision. Two participants expressed interest in LA ART only if the injection lasted at least one year. Responses were consistent across gender and start/restart groups.
Conclusions: Given the high risk for discontinuing ART within the first year, the burden of pill fatigue, and substantial interest in LA ART, adults starting and restarting ART should be considered for these technologies. Client perceptions and concerns must inform the development of LA ART formulations and implementation plans.

EP0897

Referral to differentiated antiretroviral therapy delivery at 6 months after initiation: a retrospective cohort study in KwaZulu-Natal, South Africa

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Background: The World Health Organization recommends differentiated service delivery (DSD) after 12 months of antiretroviral therapy (ART). Since April 2020, South Africa has allowed for referral to decentralized ART programs just 6 months after ART initiation ("early DSD"). We aimed to evaluate the uptake of early DSD and subsequent clinical outcomes.
Methods: We performed a retrospective cohort study using routine, de-identified data from 125 public clinics in KwaZulu-Natal, South Africa. We included people with HIV aged ≥16 years, newly initiated on ART and virally suppressed (≤50 copies/mL) after 6 months. We assessed uptake of early DSD at 6 months (window: <270 days) among people initiating ART between January 2020 and December 2022, and clinical outcomes of retention-in-care (not late for a visit by >90 days) and viral suppression <50 copies/ml at 12 months among people initiating ART between January 2020 and March 2022 and followed up until September 2023. We used logistic regression models adjusting for gender, age, ART regimen and baseline CD4 to compare outcomes between early DSD versus delayed or no referral to DSD.
Results: Among 25,272 people eligible for early DSD, 15,182 (60%) were women and the median age was 33 years (IQR 27-40). 2,727 (10.8%) received early DSD, at a median of 218 days (IQR 197 to 230) after ART initiation. Rates of early DSD increased from 6.3% of those initiated in Q1 2020 to 15.7% of those initiated in Q4 2022. Among 19,162 participants with outcome data, 1,893 (9.9%) received early DSD. The proportion retained in care at 12 months was 15,167/17,269 (88%) for those without and 1,762/1,893 (93%) for those with early DSD (aOR 1.85; 95% CI 1.54, 2.23; p<0.001). Among those retained in care, a 12-month viral load result was available for 14,937/16,929 (88.2%), and of these 12,139/13,435 (90.4%) without and 1,375/1,502 (91.5%) with early DSD were virally suppressed (aOR 1.13; 95% CI 0.93-1.37; p=0.2).

Conclusions: Uptake of early DSD was low, but was not associated with worse clinical outcomes. Research into barriers to implementation of early DSD, and policies to facilitate early referral, are required.

EP0898

Leveraging the CDDP+ model to improve PMTCT service delivery at Health Center IIs in Bunyoro region, Mid-Western Uganda from July 2020 to September 2024

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Background: Ministry of Health Uganda adopted the triple 95 UNAIDs-targets, however, by July 2020, only 92% of pregnant women (PW) knew their HIV-status at their first antenatal care (ANC-1) visit at 282 health facilities (HFs) in Bunyoro. Health Center IIs (HCII) constituted 40% (112/282) of HFs and 19% (25531/133309) ANC-1 attendance. Only 17/112 HCIIs provided comprehensive prevention of mother-to-child-transmission (PMTCT) services. Percentage of PW with known HIV status at ANC-1 (PMTCT_STAT), percentage of HIV-positive PW who received anti-retroviral treatment (ART) to reduce the risk of mother-to-child-transmission during pregnancy (PMTCT_ART) and the percentage of infants born to HIV-positive women who received a first virologic HIV test by 12 months of age (PMTCT_EID) at HCIIs was 89%,78% and 27%, respectively. This performance at the HCIIs was attributed to poor infrastructure, staffing, knowledge gaps on PMTCT standards, testing kit shortage, and non-availability of ART. The team set out to use a modified community drug distribution point plus (CDDP+) model at HCIIs offering ANC-1 services to improve access to PMTCT services.

Description: Baylor Foundation Uganda (BFU) engaged Assistant District Health Officers for Maternal-Child-Health and Biostaticians, conducted data review meetings for PMTCT indicators at HCIIs and identified 55 HCIIs with the highest ANC-1 attendances, trained Midwives, and supported monthly onsite mentorship by experienced mentor midwives from higher level facilities (HLFs). Village health teams and peer mothers were engaged to register, mobilize pregnant mothers through a door-to-door approach, and offer ongoing psychosocial support for retention. Existing hub-riders were re-routed to transport Early Infant Diagnosis (EID) samples. HLFs provided data tools and PMTCT commodities. ANC-1 data were reported by HCIIs while ART data were reported by the supporting HLFs into DHIS2. CDC funded minor site-modifications at selected HCIIs, while all 55 HCIIs received ANC/PMTCT equipment.

Lessons learned: Data use, monthly mentorships to Midwives and scale-up of PMTCT implementation to HCIIs using the CDDP+ model improved PMTCT_STAT from 89% to 98%, PMTCT_ART from 78% to 95%, while PMTCT_EID improved from 27% to 73%, respectively.

Conclusions/Next steps: The CDDP+ model was a simple and effective way to differentiate health care for PW at HCIIs. BFU is scaling up the intervention to additional HCIIs.

EP0899

Using routine data to predict treatment interruption in 2024: a case of Petauke district Hospital, Zambia

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Background: Interruption in treatment (IIT) remains a significant challenge in HIV treatment programs. Zambia recorded IIT rates averaging 2.5% during January to September 2024. Understanding characteristics and factors associated with IIT can provide opportunities to design strategies that can optimize retention in care.

Description: We conducted a retrospective analysis of routine program data from electronic medical records for the period January to September 2024. Records from 5,717 recipients of care (ROCs) who accessed ART services during this period were analyzed, including ROCs who were active on treatment and those who experienced IIT for ≥28 days.

A multivariable logistic regression analysis was conducted to profile risk factors associated with ROCs who had an IIT. Predictor variables age, sex, having an active mobile phone contact, multi-month dispensing (MMD), and viral load suppression status were included in the model. The outcome variable of interest was IIT. Predicted probabilities for IIT were computed across different ROCs profiles using margins analysis, and results were validated through receiver operating characteristic curves.

Lessons learned: Results showed that females were less likely to experience IIT compared to males (aOR: 0.71, $p = 0.003$). ROCs receiving any MMD were significantly less likely to experience IIT compared to those not on MMD (aOR: 0.33, $p < 0.001$).

Additionally, ROCs without an active mobile phone contact were more likely to experience IIT compared to those with a mobile phone contact (aOR: 1.46, $p < 0.002$). The predicted probability showed that male ROCs across all age groups who have a history of unsuppressed viral load (>1,000 copies/mL) coupled with not on MMD and without an active mobile phone contact were at a higher risk of experiencing IIT compared to females with suppressed viral load, on MMD, and with aa active mobile phone contact. Particularly, the profile male in the 15-19 age group who were not on MMD and had unsuppressed viral load had the highest probability (predicted probability = 0.19, $p = 0.001$).

Conclusions/Next steps: Data analysis identified key predictors of IIT. These results demonstrated the importance of using MMD, updating mobile phone contacts, and regular follow-ups for targeted sub-populations to prevent IIT and improve retention in care.

EP0900

Cohort monitoring by village: a human centered strategy for viral load monitoring for PLHIV in ART care in rural Gwanda, Matabeleland South province, Zimbabwe

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Background: Routine viral load (VL) monitoring is critical for determining antiretroviral treatment (ART) efficacy and Zimbabwe targets to achieve ≥80% VL coverage. In April 2022, we identified a significantly low VL sample collection at Garanyemba Clinic of 3% by mid-year despite an VL collection coverage of 70% in Gwanda district.
This was attributed to poor cohort filing of client ART records making it difficult to determine when clients were due for VL sample collection. We therefore set a goal to increase cohort VL sample collection to 65% by December 2022.
Description: In July 2022, we monitored clinic processes and analyzed data on VL collection from January – June 2022 which guided our strategy. Using these observations, we implemented a village-based cohort approach to VL sample collection, targeting clients from 6 hard-to-reach villages within Garanyemba clinic, Gwanda catchment area starting in July 2022.
We added village of residence to the month of ART initiation to our definition of a cohort. Clients were mobilized monthly from their villages for sample collection at designated health posts by Community Outreach Agents (COAs) and Village Health Workers by cohort, based on their month of ART initiation. This was integrated with ART refills, TB and cervical cancer screening, and management of minor ailments. Progress was tracked monthly through DHIS2 and visualized through automated PowerBi dashboards to monitor trends and evaluate the effectiveness of our methodology.
Lessons learned: Overall, 566 clients were reached at six health posts, significantly improving cohort VL sample collection from 3% to 74% by November 2022—exceeding our target. This performance has been maintained above 75% to date. One health post alone reached 123 clients in its inaugural session. All clients were screened for TB with 8 (1.4%) presumed and tested. Those HIV positive women screened for cervical cancer were 253.
Conclusions/Next steps: Our village-based cohort strategy proved effective in improving VL collection coverage, by addressing logistical challenges and leveraging community engagement, particularly in this remote, sparsely populated and hard-to-reach rural setting.
The integration of services improved client turnout, facilitated efficient appointment scheduling, and streamlined client mobilization for VL sample collection with defaulter tracking.

EP0901

The effect of age-appropriate disclosure on adherence to antiretroviral therapy and viral load suppression among adolescents living with HIV in Edo State, Nigeria

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Background: Adolescents living with HIV (ALHIV) face unique challenges that can impact adherence to antiretroviral therapy (ART) and viral load suppression. Age-appropriate disclosure of HIV status has been identified as a potential intervention to improve these outcomes.
This study aims to evaluate the effect of age-appropriate disclosure on adherence to ART and viral load suppression among adolescents aged 10–19 years receiving ART in Edo State, Nigeria.
Methods: A cross-sectional study was conducted among 1133 adolescents receiving ART across 28 facilities in Edo State. The data source was the Pediatric Disclosure checklist abstracted from the medical records (folders) of the clients in the cohort. Participants were categorized into two groups: those who had undergone age-appropriate disclosure (n=1097) and those who had not (n=36). Data were collected on ART adherence (defined as ≥95% medication adherence) and viral load suppression (defined as 1000 copies/mL).
While descriptive statistics was used to summarize adherence and suppression rates across the two groups, Chi-square tests was employed to compare proportions of adherence and suppression between the groups.
Odds ratios (ORs) with 95% confidence intervals (CIs) was valuable in quantifying the association between age-appropriate disclosure and outcomes. Multivariate logistic regression was used to adjust for potential confounders, such as age and duration on ART.
Results: Adolescents who received age-appropriate disclosure had significantly higher adherence rates (97%) compared to those who had not (67%) ($p < 0.001$). Similarly, viral load suppression rates were higher in the disclosure group (91%) compared to the non-disclosure group (75%) ($p < 0.001$). Age-appropriate disclosure was associated with a 7.3-fold increased likelihood of adherence (OR: 7.3; 95% CI: 3.2–16.8) and a 3.9-fold increased likelihood of viral load suppression (OR: 3.9; 95% CI: 1.9–8.2) after adjusting for confounders.
Conclusions: Age-appropriate disclosure significantly improves ART adherence and viral load suppression among adolescents living with HIV in Edo State, Nigeria.
These findings underscore the importance of integrating disclosure interventions into adolescent HIV care programs to optimize treatment outcomes. Further research should explore strategies for effective disclosure.

EP0902

Leveraging Differentiated Service Delivery (DSD) models to improve and sustain HIV care services in Burundi military settings

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Background: Burundi, a low-resourced country in East Africa, faces challenges in delivering HIV services particularly to populations in semi-closed settings like the military. Military-specific barriers, including frequent mobility due to border deployments, peacekeeping missions, and operational demands, compound broader challenges such as limited transportation access and outbreaks like COVID-19 and Mpox.
To address theses barriers, Differentiated Service Delivery (DSD) care models were introduced in military healthcare settings starting in 2022, aiming to improve and sustain access to HIV prevention, care, and treatment services.
Description: This study is a retrospective secondary analysis of program data from the Department of Defense, collected between October 2019 and September 2024 from nine military sites. The program targeted military personnel, and their families through three main DSD approaches including community adherence groups (CAGs), outreach services, and facility-based adherence groups. The expansion of these care models was accelerated during the COVID-19 pandemic, under the guidance of the ministry of health, to ensure the continuity and quality of services. To evaluate the access, data on pre-exposure prophylaxis (PrEP) uptake, and viral load (VL) coverage and suppression were analysed descriptively using Microsoft Excel.
Lessons learned: By 2024, 98% (n=4,215) of PLHIV in these facilities, of whom 2,551 (61%) were women, were enrolled in DSD models: 2,030 (48%) in CAGs, 888 (21%) in outreach services, 1,297 (31%) in adherence groups. These approaches increased access to VL testing, which increased from 66% in September 2019 (pre-COVID-19) to 92% in 2021 and was sustained at 95% by September 2024.
Similarly, viral suppression improved from 91% in 2019 to 97% in 2021 and remained stable thereafter. PrEP implementation, initiated in 2022 with 140 clients, steadily expanded, reaching 336 new initiations by 2024.
Conclusions/Next steps: The implementation of DSD models in military settings has significantly enhanced HIV prevention and treatment care outcomes.
The decentralization and integration of differentiated community-based services remain crucial for addressing persistent access challenges and closing the remaining gaps to achie.ve the UNAIDS 95-95-95 targets.
Lessons learned from this program inform broader strategies to improve HIV care in other resource-limited or conflict-affected settings.

EP0903

Treatment outcomes of mobile clients on ART: insights from AHF's collaborative ART clinic, Nepal (2016–2023)

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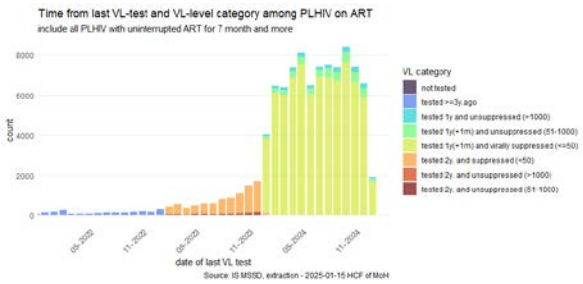
Background: Retention in antiretroviral therapy (ART) programs is a cornerstone of effective HIV care and control. Migrant populations often face unique challenges that influence their ability to remain engaged in care.
This study evaluates retention trends and associated predictors among Nepalese migrants enrolled in an AHF-supported ART clinic in Seti, Nepal.
Methods: A retrospective cohort analysis was conducted using clinical data from 631 Nepalese migrants who initiated ART between 2016 and 2023. Retention was defined as being actively on treatment as of the latest follow-up. Descriptive statistics, stratified by demographic and clinical variables, were used to identify predictors of retention.
Results: From March 2016 to December 2023, 631 clients were enrolled. By current date of analysis, out of the total, 420 clients remain active (66.6%), while 211 (33.4%) were categorized as lost to follow-up (LFU) or transferred out or death. Tuberculosis (26%) was identified as the leading cause of death, followed by advanced AIDS (14%). Retention rates were higher among younger individuals and those enrolled in family-supported dispensing models compared to self-dispensing approaches.
The majority of active clients benefit from multi-month dispensing (MMD) with durations of 2–3 months (97%). The highest retention duration is 5 years, with 70 clients (16%), while the lowest is 8 years, with 30 clients (7%).
Conclusions: Older individuals and those relying on self-dispensing methods faced significant challenges in retaining in care. Expanding family-supported ART delivery and optimizing MMD durations are critical strategies to enhance retention in this vulnerable group.
Further research is needed to explore additional barriers and facilitators to sustained engagement in HIV care.

EP0904

The importance of a differentiated, patient-centered approach in cases of missed routine viral load testing or suboptimal viral load levels

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Background: A differentiated, patient-centered approach is crucial in the management of PLHIV, particularly in cases where patients miss routine VL testing or present with suboptimal VL levels. Missed appointments and suboptimal adherence to ART increase the risk of virologic failure and the development of drug resistance.
Addressing these challenges requires tailored interventions that consider for individual patient needs, ensuring continuity of care and sustained viral suppression.
Description: This study examines the diverse reasons behind the absence of virological suppression and missed VL testing within the past 12 months, among all PLHIV on ART on 01 January 2025 in Ukraine. Each patient group presents unique challenges that necessitate targeted interventions, which vary depending on the underlying causes. A range of personalized follow-up strategies, including telehealth consultations, peer support programs, and flexible service delivery models, can help re-engage patients in care and support their treatment adherence. Source of the data: National Information System of Socially Significant Diseases (IS MSSD).



Lessons learned: The implementation of a one-size-fits-all approach at the healthcare facility (HCF) level has proven ineffective in addressing the complexities of missed VL testing and suboptimal suppression. Failure to adopt a patient-centered approach may lead to:

- An increased risk of ART resistance due to prolonged periods of low-level viremia.
- Escalating healthcare costs associated with advanced treatment needs and complications.
- Deteriorating health outcomes and reduced quality of life for patients due to persistent viral replication.

Conclusions/Next steps: A differentiated, patient-centered approach should be incorporated into national HIV programs to enhance retention in care and improve treatment adherence.
Key strategies, such as individualized adherence counseling, community-based follow-up mechanisms, mobile blood testing services, flexible appointment scheduling, and telehealth consultations, are crucial for ensuring timely VL monitoring and achieving optimal treatment outcomes. Investing in these interventions will help reduce the burden on healthcare systems and improve the overall well-being of PLHIV.

EP0905

Adaptation of interventions to improve engagement and participation in HIV care interventions: lessons learned from the E2i initiative

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Background: *Using Evidence-Informed Interventions to Improve HIV Health Outcomes among People Living with HIV* (E2i) was a U.S. initiative to improve HIV care engagement, retention, and viral suppression among people with complex needs.
A primary E2i objective was to disseminate lessons learned about the influence of local context on the translation of research into practice. E2i was funded by the U.S. Department of Health and Human Services, Health Resources and Services Administration, under grant number U90HA42153.
Description: E2i (2017-2021) selected 11 interventions to pilot, adapt, and evaluate using an implementation science framework. Participating sites included 26 community-based organizations, health centers, and hospital-based clinics providing care to people with HIV in urban and rural settings across the U.S. Barriers and adaptations were qualitatively evaluated based on site staff interviews, and observation of technical assistance provision and peer-to-peer learning.
Lessons learned: During implementation, site staff reported key barriers that prevented eligible participants from starting or fully engaging in interventions. Barriers included medical mistrust, stigma, readiness for change, health literacy gaps, unmet subsistence needs, forgetting appointments, and mobile phone access challenges. Site adaptations to address barriers included hiring peers, providing tailored incentives, and offering flexible scheduling (Table 1).
When replicating interventions in real-world HIV settings, implementers should anticipate engagement barriers and plan to tailor adaptations for local communities.
Conclusions/Next steps: HIV interventions cannot produce beneficial outcomes if barriers prevent participation. E2i findings highlight the importance of local adaptations to engage participants.
Future implementation science research can further uncover effective strategies for improving intervention participation.

Barriers to participation	Adaptations to improve participation
Medical mistrust	• Incorporated peers as mentors, navigators, or co-facilitators. • Trained staff to build trust and prepare clients for sensitive discussions. • Allocated extra time during initial intervention sessions to establish trust.
Unmet subsistence needs	• Integrated case management into intervention, if not already intrinsic to the program. • Partnered with essential service providers through formalized agreements. • Offered tailored incentives, such as meals, grocery vouchers, pillboxes, and backpacks.
Structural barriers	• Provided bus passes, gas cards, and ride services. • Scheduled intervention sessions alongside other site appointments to reduce travel. • Delivered care via mobile health vans and at off-site locations (e.g., homes, parks). • Offered flexible scheduling, including evening/weekend hours and drop-in formats.
HIV stigma	• Avoided using "HIV" in recruitment materials, intervention names, and staff titles. • Opened interventions to clients regardless of HIV status to avoid disclosure. • Ensured privacy with telehealth options, off-site visits, and discrete entry points.
Stigma associated with mental health and substance use disorders	• Allowed clients to disclose sensitive information at their own pace. • Offered options to write responses in one-to-one interventions. • Used neutral, wellness-oriented language (e.g., "coaching" instead of "therapy"). • Delivered buprenorphine treatment at home to ensure privacy.
Readiness for behavioral change	• Paced interventions based on client readiness. • Conducted regular follow-ups to maintain communication and offer reassurance. • Used motivational interviewing to explore ambivalence and define goals.
Health literacy	• Provided pre-intervention sessions and extended time during sessions to clarify complex concepts. • Enhanced materials with multimedia tools (e.g., videos, apps, interactive formats). • Replaced written psychosocial assessments with orally administered versions.
Forgetting to attend sessions	• Sent reminders via text, calls, or automated systems. • Encouraged peer-led group chats for reminders. • Regularly updated client contact information.
Mobile phone challenges	• Secured funding to replace lost or stolen devices. • Provided mobile hotspots to ensure reliable internet access for virtual sessions and app-based tools.

Table 1. Barriers to client participation and adaptations implemented in E2i HIV interventions.

EP0906

Implementation determinants and strategies to implement an adapted Data to Care vertical HIV prevention intervention in South Africa

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Background: Retention of mother-infant pairs (MIPs) in vertical HIV transmission prevention (VTP) is crucial for the mother's sustained viral suppression, to prevent HIV transmission, and for rapid diagnosis and treatment in the event of transmission. The REMInD intervention aimed to combine the benefits of a Data to Care (D2C) approach leveraging the Western Cape Provincial Health Data Centre data with telephonic tracing to support MIPs in completing VTP care. We conducted an implementation evaluation of the proof-of-concept study to identify implementation determinants and potential strategies to address these.

Methods: We conducted semi-structured in-depth interviews with 40 healthcare seekers, healthcare workers (HCW) and policy implementers from the REMInD study clinics in Gugulethu, South Africa. Interview transcripts were analysed using Thematic analysis guided by the Consolidated Framework of Implementation Research (CFIR) and the Expert Recommendations for Implementing Change (ERIC) frameworks. The CFIR-ERIC matching tool was used to complement and enhance the identification and description of strategies identified in the interview data.

Results: Implementation determinants identified for the REMInD intervention included the availability of human resources, electronic devices, power supply and physical space.

Additionally, the capabilities of those implementing the intervention, the perceived difficulty of the intervention, the geographical features of the community and HIV related stigma in the community were highlighted as potential implementation determinants.

Strategies to overcome barriers or leverage facilitators included giving HCW equal access to the intervention, identifying a 'champion' among HCW to drive implementation, providing ongoing consultation and training, adapting the intervention to suit the social and geographical context and using existing non-governmental partners for implementation support.

Conclusions: Using the CFIR, ERIC and CFIR-ERIC matching tool we identified key factors and selected strategies to address determinants and support successful implementation. Implementation success for the REMInD intervention, and similar D2C interventions in low resource settings, depends on addressing multiple interconnected factors.

These factors need to be accounted for in intervention design and at various stages of implementation, to enable the implementation of D2C interventions and improve HIV care and retention in low resource settings.

EP0907

Exploring the relationship between biometric matching outcomes and retention amongst key populations living with HIV

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Background: In Northern Nigeria, USAID implements the Key Population Community HIV Services Action and Response project (KPCARE 2). Due to the trans-location characteristics of key populations, this study investigated relationships between key populations' ART status and biometric uptake for effective service delivery.

Methods: The dataset was for clients enrolled on ART between 2020 - 2024 included variables such as current ART status, age, sex, health facilities, and biometric matching. Descriptive analysis, cross-tabulations, and chi-square tests were conducted using encoded Stata Variables. Demographic data, healthcare facilities, and biometric matching outcomes were cross-tabulated. Chi-square tests assessed the statistical significance of emerging patterns. PLHIV retention rates and biometric matching outcomes were compared to see if biometric matches correlated with higher retention.

Results: Data for a total of 53,786 KP-PLHIV were analyzed, out of which 43,346 clients were found active. Of the 43,346 active persons, 34,590 (79.8%) had matched biometrics, 2,672 (6.2%) had unmatched records, and 6,084 (14.0%) were newly enrolled with baseline biometrics only.

Retention rates were significantly higher in PLHIV with matched biometrics (91.3%, p <0.001) compared to unmatched (63.5%) or baseline-only biometrics (58.8%).

People aged 20-49 years with high matching outcomes had high retention in care, while those aged under 15 and over 49 years had lower biometric matching and retention. Females showed better matching and retention outcomes. Facilities with higher biometric matching success achieved greater retention of PLHIV. Biometric integration revealed that 10,440 inactive persons had discontinued care.

Conclusions: The study reveals a strong association and demographic groups with higher matching outcomes had better retention in care, emphasizing the critical role of effective biometric systems in PLHIV management for equitable healthcare delivery.

EP0908

Stated preferences for antiretroviral therapy (ART) adherence support and models of HIV care among South African adults starting or restarting ART: findings from two discrete choice experiments (DCEs)

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Background: Evidence-based ART adherence support and differentiated models of care (DMOC) can be optimized by expanding eligibility and incorporating client preferences. We conducted two DCEs to elicit attribute preferences for these strategies in Cape Town, South Africa.

Methods: We enrolled 330 adults living with HIV at two peri-urban clinics (June–November 2024) who had newly started ART or restarted after an interruption (>3 months) in the last 6 months. Each client responded to 12 choice sets: six focused on attributes of adherence support and six on DMOC.

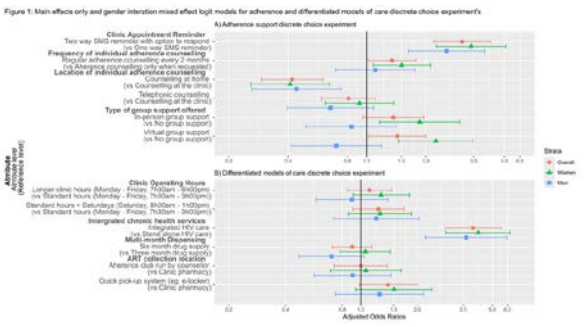
Mixed effects logit models, presented as odds ratios (OR) with 95% confidence intervals (CI), were used to estimate the relative preferences for each attribute level overall and by gender.

Random effects were included to estimate the standard deviations for all attribute levels, accounting for and identifying between-person preference heterogeneity.

Results: Overall, 235 (71.2%) participants were restarting ART, 130 (38.8%) were male (median age 41 years; interquartile range [IQR] 35–49) and 200 (61.2%) were female (median age 37; IQR: 30-41). Relative preferences are shown in Figure 1.

In the adherence support DCE (A), participants preferred a two-way appointment reminder (OR 3.1, 95%CI: 2.2–4.2), and had a negative preference for home-based counselling (OR: 0.4, 95%CI: 0.3–0.6).

Women, but not men, preferred group support (either in-person [OR: 1.9, 95%CI: 1.2-3.0] or virtually [OR: 2.2, 95%CI: 1.5-3.5]). In the DMOC DCE (B), participants only preferred receiving integrated HIV care (OR: 3.9, 95% CI: 2.8–5.5), with no differences by gender. Standard deviations for all attribute levels, except clinic hours, showed statistically significant heterogeneity in between-person preferences.



Conclusions: Two-way appointment reminders and integrated health services emerged as important service attributes overall. Gender differences and heterogeneity in client preferences suggest that individual choice may be needed to achieve optimal ART engagement.

EP0909

Earlier first viral load accelerates differentiated service delivery enrolment for people newly initiated on antiretroviral therapy: a retrospective analysis of 2023 HIV guideline implementation in South Africa

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Background: In April 2023, the South African National Department of Health updated antiretroviral therapy (ART) guidelines, advancing the first viral load (VL) test for ART initiators from six to three months post-initiation. Suppressed (VL<50 copies/ml) clients became eligible for less-intensive differentiated service delivery (DSD) models at their four-month result review.

We evaluated early adoption of the new VL schedule and its impact on DSD enrolment timing in four South African districts.

Methods: We analyzed ART initiations from January 2017 to December 2023, excluding those recorded as deceased, transferred out or with a baseline VL (suggesting prior treatment and/or potential re-engagement) but including those who may have disengaged during follow-up.

A follow-up period of 168 days (6x28 day dispensing cycles) was applied following guideline-mandated first VL timing. Trends in VL coverage, VL timing and DSD enrolment timing are described. A Cox proportional hazards model, restricted to 2023 post-April initiators, evaluated time to DSD enrolment adjusting for age, gender, district and time to first VL.

Results: We included 664,523 ART initiations, of which 57% (380,262) had a captured VL. Median time to first VL decreased from 177 days in 2022 to 119 days in 2023. Median time to DSD enrolment decreased 42% from 2022 to 2023 (Table 1).

Following the 2023 VL timing guideline shift, clients with a supressed three-month VL had a shorter median time to DSD enrolment (162 days) compared to those with a six-month VL (252 days; aHR=0.44; p-value <0.01, 95%CI 0.40;0.47).

Conclusions: The guideline shift to earlier VL testing was swiftly implemented, rapidly reducing time to DSD enrolment. Prioritizing first VL testing three months post-ART initiation, enables earlier access to less-intensive DSD models and targeted adherence support, critical to addressing retention challenges during the first year of ART.

Category	2017	2018	2019	2020	2021	2022	2023
Total ART initiations	131,006	110,573	123,876	91,798	76,463	69,653	61,154
VL not captured in follow-up period (includes disengaged individuals) (%)	61,097 (46.6%)	51,111 (46.2%)	56,349 (45.5%)	40,356 (44.0%)	31,321 (41.0%)	25,689 (36.9%)	18,356 (30.0%)
Median time to first VL (days, IQR)	180 (157-201)	179 (150-200)	181 (157-199)	179 (147-200)	176 (142-197)	177 (148-198)	119 (87-178)
VL timing categories: Early: 29–77 days (%)	2741 (3.9%)	2481 (4.2%)	2634 (3.9%)	2151 (4.2%)	1918 (4.3%)	1881 (4.3%)	2955 (6.9%)
3 months: 78–112 days (%)	8073 (11.5%)	7774 (13.1%)	8028 (11.9%)	6915 (13.4%)	6552 (14.5%)	5991 (13.6%)	16883 (39.5%)
3–6 months: 113–161 days (%)	7935 (11.4%)	6809 (11.5%)	7475 (11.1%)	5995 (11.7%)	5226 (11.6%)	4890 (11.1%)	7029 (16.4%)
6 months: 162–196 days (%)	30801 (44.1%)	25493 (42.9%)	30296 (44.9%)	21620 (42.0%)	19507 (43.2%)	19452 (44.3%)	10073 (23.5%)
Late: >196 days (%)	20377 (29.1%)	16905 (28.4%)	19094 (28.2%)	14761 (28.7%)	11939 (26.5%)	11750 (26.7%)	5858 (13.7%)
Median time to DSD enrolment (days; IQR)	932 (664-1343)	766 (531-1143)	592 (424-964)	506 (365-838)	450 (341-726)	382 (251-501)	218 (166-334)

Table 1: ART Initiations, first VL coverage and timing and DSD timing (2017–2023).

EP0910

From long queues to timely care: the role of community-led monitoring in enhancing HIV services at Mikolongwe Health Centre in Thyolo District, Malawi

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Background: Long wait times at Mikolongwe Health Centre made it hard for people to get HIV testing services because of staff shortages. By using Community Led Monitoring (CLM) practices to collect data and push for changes, staff became better organized, reduced wait times, and improved HIV testing and treatment.

This study shows how important community advocacy is in improving HIV prevention, treatment, and care services.

Description: Sixty-five (65) in-depth interviews with people living with HIV (PLHIV) and other recipients of care were conducted in July 2023 at the local health centre. Likewise, five focus group discussions were held with PLHIV, women, persons from key populations (KPs), as well as adolescent girls and young women (AGYW).

Lessons learned: CLM identified inadequate staffing as the root cause for the long waiting times observed by clients. The facility had one HIV Diagnostic Assistant (HDA) providing HIV testing, counselling, and viral load services. . The feedback was shared with the implementing partner, Malawi Counselling and Resource Organisation (MACRO) during a September 2023 advocacy meeting. In December 2023, MACRO deployed an additional HIV Diagnostic Assistant (HDA) and Treatment Supporter to the facility. CLM data revealed a significant reduction in client waiting times, with both clients and facility leadership acknowledging the improvements. Clinical data also showed improved testing of HIV services by 101% in FY4Q1, 118% in FY4Q2, and 122% in FY4Q3 and a reduction of ROC waiting time from 2 hours in FY3Q4 to 47 minutes on average in FY4Q3.

Conclusions/Next steps: CLM advocacy identified staff shortages as the root cause for long waiting times for HIV services at a local health center. MACRO, the designated implementing partner, deployed additional staff, resulting in significant improvements of client waiting times for HIV services and enhanced overall quality of care.
The findings and results suggest that targeted staffing interventions can bring a positive impact on the quality of HIV services.

EP0911

Two decades of experience with anti-retroviral therapy scale-up in Rwanda (2004-2024): enablers, strategies, and impact

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Background: Over the past 20 years, Rwanda has made significant progress in scaling up antiretroviral therapy (ART), achieving near-universal coverage for people living with HIV (PLHIV).
From 2004, with ART coverage below 10%, the country reached 97% ART coverage by 2024, drastically reducing HIV-related mortality by 82%. This progress is attributed to strong political leadership, commitment to equity, and collaborative efforts.
The objective of this analysis is to explore how these enablers contributed to ART scale-up, the effectiveness of the interventions, and the specific impacts on different gender identities, age groups, and geographic regions.
Description: Key enablers and strategic interventions of Rwanda's ART scale-up include:
1. Strong political leadership prioritized HIV/AIDS in national health strategies, mobilizing resources to integrate ART into the healthcare system.
2. Decentralization of services extended ART to all levels of the health service delivery, ensuring access in remote areas.
3. Task-shifting and community engagement empowered nurses and community health workers (CHWs) to deliver ART and monitor adherence, improving retention and reducing stigma.
4. Partnerships and funding from global partners like the Global Fund and PEPFAR provided essential technical and financial support for ART implementation.
5. Integration of ART services into essential services like maternal and child health, tuberculosis, and primary care, facilitating service uptake.
6. Innovation and technology through differentiated care models and electronic health records improved patient-centered care and efficiency.
Lessons learned: From 2004 to 2024, Rwanda's ART coverage grew from below 10% to 97%, reducing mortality by 82%.
These gains were attributed to targeted testing, early treatment initiation, and retention strategies, which were implemented across diverse demographic groups, including women, youth, and vulnerable populations.
Key lessons include the importance of community engagement in overcoming stigma and the role of task shifting in improving access.
Conclusions/Next steps: Rwanda's ART scale-up demonstrates that strong political commitment, community involvement, and innovation are key to achieving significant health outcomes. Moving forward, continued investment in equitable access, particularly in underserved populations, and addressing gender-based disparities and ensuring sustainable quality service delivery will be essential to maintaining and expanding these gains.

EP0912

Increased retention in care among persons with HIV receiving health facility-based HIV care outside of normal working hours in central Mozambique: a retrospective cohort study (2021-2024)

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Background: To enhance uptake and retention in HIV care, a differentiated service delivery (DSD) model offering extended working hours (EWH) is being implemented in Mozambique, providing services until 8pm on weekdays and on Saturday mornings.
We assessed the effect on 12-month retention in care, lost to follow-up (LTFU), and viral suppression among persons with HIV (PWH) utilizing EWH, compared to those receiving care only during regular working hours (RWH).
Methods: We analyzed routinely collected individual-level data for PWH (≥15 years old) receiving care from July 2021 to June 2024 at 12 health facilities in Zambézia Province. RWH clients were matched to EWH clients (2:1 ratio) on time on antiretroviral therapy (ART), age, sex, and location. Mixed-effects logistic models were built to assess the effect of EWH on 12-month retention and viral suppression, and mixed-effects Cox models were used for LTFU. PWH were classified as retained in care if they had an ART pick-up <60 days after their last scheduled pick-up.
Otherwise, they were LTFU. PWH were classified as virologically suppressed if their HIV viral load count was ≤1,000 copies/mL within one year of EWH eligibility.
Results: Among 61,521 PWH (20,507 EWH; 41,014 RWH) included, 65% were female and mean age was 31 years (standard deviation=8). The 12-month retention rates were 91% and 81% for EWH and RWH clients, respectively. Compared to RWH clients, EWH clients had 2.46 the odds of being retained at 12 months (95%CI:2.30–2.63; p<0.001). LTFU was lower among EWH compared to RWH clients (33% vs 45%; HR:0.64; 95%CI:0.62-0.66; p<0.001). Viral sup-

pression rates were 91% and 92% for EWH and RWH clients, respectively (OR:0.86; 95%CI: 0.75-0.99; p=0.03). Similar effects were seen among males and females (Table).

	Extended Working Hours (%)	Regular Working Hours (%)	Effect size	p-value
12-month retention (n= 42879)			Odds Ratio (95% CI)	
Overall	91%	81%	2.46 (2.30-2.63)	p<0.001
Male	90%	79%	2.59 (2.34-2.88)	p<0.001
Female	92%	82%	2.38 (2.19-2.59)	p<0.001
Lost to follow-up (n= 61521)			Hazard Ratio (95% CI)	
Overall	33%	45%	0.64 (0.62-0.66)	p<0.001
Male	38%	51%	0.63 (0.60-0.65)	p<0.001
Female	31%	42%	0.65 (0.63-0.67)	p<0.001
HIV Viral Suppression (n=12154)			Odds Ratio (95% CI)	
Overall	91%	92%	0.86 (0.75-0.99)	p=0.03
Male	91%	92%	0.87 (0.68-1.12)	p=0.28
Female	91%	93%	0.86 (0.73-1.02)	p=0.08

Table. Effect of Extended Working Hours model on 12-month retention, lost to follow-up and viral suppression (overall and disaggregated by sex).

Conclusions: Our evaluation found favorable continuum of care outcomes for male and female PWH utilizing flexible clinic hours in Mozambique. This client-centered DSD is an effective strategy at enhancing PWH engagement and retention in HIV care. These findings provide insights for potential model expansion in collaboration with local policymakers.

EP0913

Review of advanced HIV disease management practices in inpatient and outpatient settings: insights from Nakuru and Kericho counties, Kenya

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Background: In Kenya, approximately 30% of newly diagnosed people living with HIV (PLHIV), 21% re-engaging in care, and 27% experiencing treatment failure present with advanced HIV disease (AHD), increasing their mortality risk. To address this, Nakuru and Kericho counties each designated four health facilities as AHD Centers of Excellence (CoEs) under the Ministry of Health's comprehensive AHD framework. The County Health Management Teams (CHMTs) aimed to assess facility-level care processes in inpatient departments (IPDs) and HIV and tuberculosis (TB) outpatient clinics to identify strengths and gaps in AHD management.

Description: Between August and October 2024, Kericho and Nakuru CHMTs, with support from the National AIDS and STI Control Program (NASCOP), Regional Technical Working Groups, Clinton Health Access Initiative, and AfroCAB, conducted facility visits and reviews of AHD patient records in CoEs. The activities included IPD visits, reviews of charts for AHD patients attending HIV and TB clinics, and multidisciplinary team meetings to discuss AHD cases and mortalities.

These discussions provided recommendations to improve AHD management. Qualitative observations during IPD visits, chart reviews, and team meetings revealed critical areas for improvement in AHD care.

Lessons learned: Both inpatient and outpatient settings demonstrated strong leadership, dedicated staff, and robust CHMT and partner support. Facilities were well-equipped with diagnostic tools like GeneXpert and AI-assisted chest X-rays, but notable gaps remained. These included inadequate screening, diagnosis, and management of AHD, particularly for paediatric opportunistic infections (OIs) and CD4-based diagnosis.

Inpatient wards lacked clinical algorithms for AHD management, faced erratic supplies of commodities for OIs, and experienced weak coordination between IPDs and HIV clinics, hindering care continuity. Uptake of TB preventive therapy among eligible clients was suboptimal (~30%). Mentorship and supervision efforts were largely focused on HIV and TB outpatient clinics, with minimal attention to IPDs.

Conclusions/Next steps: The review highlighted critical gaps in AHD diagnostics, especially in the consistent application of CD4 and OI testing algorithms.

Addressing these requires enhanced training, adherence to standardized protocols, and improved cross-departmental collaboration to strengthen AHD management and ensure better patient outcomes.

EP0914

Improving the disclosure rate among adolescents living with HIV through integrating a quality improvement approach within the Zvandiri model in South Africa and South Sudan

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Background: Treatment and mental health outcomes of Adolescents Living with HIV (ALHIV) remain suboptimal, of which non-disclosure is a key factor. WHO recommend that children of school age be informed of their HIV status, but most countries are struggling to ensure this.

Zvandiri connects ALHIV with trained, mentored, peer counsellors called Community Adolescent Treatment Supports (CATS). Integrating quality improvement (QI) projects focusing on improving disclosure rates among ALHIV has been documented as a best practice within Zvandiri.

Description: South Africa (Right to Care) and South Sudan (JHPIEGO-OVC activity) have both adopted the Zvandiri model and are currently supporting 1044 and 600 ALHIV through 50 and 13 CATS respectively. Zvandiri supported both countries to set up QI projects September 2023 and August 2024 respectively, with a QI package consisting of;

- Health Care Workers (HCW) and CATS elucidating and documenting the disclosure status of supported ALHIV,
- CATS and HCWs providing disclosure support to ALHIV who were not fully disclosed to including caregiver support meetings and CATS-led pre- and post- disclosure counselling sessions.

Lessons learned: The proportion of ALHIV that had received full disclosure in South Africa and South Sudan increased from 51% (533/1044) and 52% (59/113) to 82% (852/1044) and 74% (84/113) respectively as a total of 192 and 33 ALHIV and their caregivers received the QI package of disclosure support.

The main success factors were development of support groups for beneficiaries and caregivers to support the disclosure process and reducing the average age of disclosure. The main challenges were lack of responsibility taken by caregivers to support their child's care and treatment and lack of mental health support integrated within HIV programmes.

However, CATS sharing of lived experiences was helpful in engaging support structures within families and supporting the mental health of the ALHIV.

Conclusions/Next steps: This initiative has demonstrated that using a QI approach integrated within the Zvandiri model including documentation of disclosure status and active follow up of ALHIV in need of disclosure support is a scalable and cost-effective means to improve disclosure rates.

There is need for governments to adopt this strategy at scale to ensure improved disclosure rates among ALHIV across the region.

EP0915

Quality improvement initiatives in HIV service delivery: bridging gaps in recipient of care centred HIV care in Zimbabwe, 2024

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Background: Differentiated Service Delivery (DSD) is a Recipient of Care (RoC)-centred approach that simplifies and adapts HIV services to clients' preferences while reducing health system burdens. Since 2017, Zimbabwe has implemented DSD models for antiretroviral therapy (ART), with annual reviews conducted since 2018. The 2024 DSD review, conducted across 148 facilities in 30 districts from four provinces, reviewed implementation progress of quality improvement (QI) initiatives and successes within HIV service provision.

Description: Since 2022, healthcare workers (HCW) have been trained in QI using a standardized training package, along with coaching, mentorship and participation in ECHO sessions. Implementation required facilities to form QI teams, conduct root cause analysis, generate solutions and implement.

We collected and analyzed data from 4,630 records using Survey CTO and PowerBI, focusing on ART cohorts at 12, 24, and 36 months. Key data elements included DSD model utilization, availability of QI teams, and plans, provision of coaching and mentorship, viral load testing and suppression, and community involvement in quality service provision.

Lessons learned: The implementation of QI in healthcare facilities has significantly improved program performance. Sixty-three percent of facilities have multidisciplinary QI teams that review performance indicators and implement solutions. Despite RoC remaining in conventional care, 96% of facilities have QI standards specific to less intensive DSD models, including viral load testing, drug refills, and clinical visits. There has been a notable improvement in annual viral load testing (84%) and suppression (96%).

Over 95% of facilities have received coaching and mentorship visits, improving RoC records management, identification systems and integration through review dates synchronisation for various services. ECHO sessions provided a cheap and efficient way of HCW capacitation and peer learning on QI implementation.

Most facilities are collaborating with the community for service quality improvement. However, only 33% of facilities have satisfaction surveys for healthcare workers.

Conclusions/Next steps: Quality improvement initiatives in healthcare facilities demonstrated significant successes, including improved program performance, through enhanced multidisciplinary QI teams, and plans. HCW should enhance RoC awareness and engagement in DSD models, increase QI plans documentation, prioritize HCW satisfaction surveys, continue coaching and mentorship through ECHO sessions, and expand community involvement in quality service provision.

EP0916

Optimizing pediatric ART with DTG-10mg based regimen in public hospitals in Liberia

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Background: In Liberia, we face persistent challenges in diagnosing and treating children living with HIV, an estimated 4,000 children living with HIV (Spectrum 2022). Among children under 14 years on antiretroviral therapy (ART), 90% were on a regimen of ABC/3TC/LPV/r, achieving an average viral suppression rate of only 70%. Poor adherence to this regimen, due to administration difficulties and adverse events, threatens the viability of second-line options for eligible children.

Recognizing the potential WHO-recommended dolutegravir (DTG) 10 mg regimen to improve outcomes, we embarked on scaling up its use in public health facilities across Liberia. This regimen has demonstrated superior treatment outcomes, regardless of prior exposure to non-nucleoside reverse transcriptase inhibitor (NNRTI) or protease inhibitor (PI)-based regimens. We share our experience at scaling up the use of DTG-10mg in public health facilities in Liberia.

Methods: We collaborated with key stakeholders to form a national multidisciplinary team focused on improving pediatric ART. Together, we advocated for and sensitized county health offices, developed a pediatric ART training manual and dosing wheel, and trained all ART providers in participating facilities. We also appointed expert clients do to follow up on mother-baby pairs and conducted monthly program performance reviews, led by facility ART coordinators, to monitor and improve implementation.

Results: (2021)

Sex	Age Group	Number on ART Before Transition	Number Transitioned to DTG-10 mg	Number Achieving Viral Suppression (DTG-10mg)	Viral Suppression Rate (%)
Male	<5 years	21	20	20	100%
Female	<5 years	38	36	36	100%
Male	5-14 years	356	356	354	99%
Female	5-14 years	485	484	480	99%

Conclusions: Despite the diagnostic and treatment challenges we face, we successfully transitioned the majority of children on ART to the WHO-recommended DTG 10 mg regimen. Our efforts resulted in 99.3% of these children achieving viral suppression within six months, a significant improvement over the 70% suppression rate with the previous regimen.

This success underscores the value of strong stakeholder collaboration, capacity building, and rigorous program monitoring. Through these efforts, we continue to strengthen the care and treatment of children living with HIV in Liberia.

EP0917

An audit of antiretroviral regimens in people living with HIV attending a sexual health clinic in Sydney's Inner West in response to the REPRIEVE study

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Background: Current or previous use of the antiretroviral drug (ARV) abacavir has been shown to be associated with increased risk of major adverse cardiovascular events (MACE) in people living with HIV (PLWH). We conducted an audit of ARV regimens prescribed to PLWH attending Royal Prince Alfred Sexual Health (RPASH) to identify individuals receiving abacavir with view to optimise treatment.

Methods: All PLWH attending RPASH between December 2023 and December 2024 were included. Records were retrospectively analysed for gender, age, duration of HIV infection, latest HIV-1 viral load and current antiretroviral regimen. PLWH whose antiretroviral regimen included abacavir were flagged for treatment review with view to remove abacavir.

Results: 370 PLWH were included in the analysis. 91% were male (n=338). Median age was 46 years (IQR:38-55) and median duration of HIV infection was 9 years (IQR:5-13). Most (96%) were virally suppressed (defined as HIV-1 viral load < 200 copies/mL). The most common ARV regimen was bictegravir/tenofovir alafenamide/emtricitabine (n=167) followed by dolutegravir/lamivudine (n=115), dolutegravir and tenofovir alafenamide/emtricitabine (n=35), dolutegravir/abacavir/lamivudine (n=21) and long acting cabotegravir/rilpivirine (n=17). 24 PLWH were receiving abacavir therapy. As of January 2025, 33% (n=8) of PLWH receiving abacavir containing regimes had abacavir deprescribed with all being switched to dolutegravir/lamivudine. 29% (n=7) declined to change from their abacavir containing therapy, 4% (n=1) had complex resistance and co-morbidities complicating the deprescribing and the remaining 33% (n=8) are either planning to change from an abacavir containing regime in 2025 or are yet to attend an appointment where this has been discussed.

Conclusions: This audit demonstrates the need to track and systematically review ARV regimes of PLWH to modernize treatment regimens and proactively prevent co-morbidities, particularly MACE.

Further study is required to examine why some PLWH are reluctant to change therapy and to explore patient focused strategies to ensure HIV treatment and co-morbidity prevention and care are optimized.

EP0918

Assessing ART clients' experience of a novel person-centred care model piloted in eight rural and peri-urban public clinics in South Africa

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Background: Designed and piloted from January 2023 to September 2024 in eight rural and peri-urban public clinics in South Africa, the Ngiyakuzwa person-centred care model employed nurse-mentors to provide weekly on-the-job training, coaching and mentoring as a means of strengthening providers' empathy, communication skills, teamwork, stress management, and supportive supervision, hypothesizing that providers who felt better-supported would provide better-quality care to clients.

Methods: We conducted clinic exit surveys with 456 ART clients at baseline, mid-pilot, and endline, and in-depth interviews with 42 ART clients mid-pilot to assess their experience of care. Survey data were charted over time for identification of potential trends. Interviews were recorded, transcribed, and analysed thematically.

Results: Survey data reflected improvement in providers making clients feel welcome and comfortable, communicating clearly, asking questions, listening carefully, and respecting privacy.

Survey responses (n=456 per round, % agreeing or strongly agreeing)	Baseline	Endline
Did the nurse make you feel welcome and comfortable?	90%	99%
Did the nurse use words you could easily understand?	87%	100%
Did the nurse ask about how you are feeling today?	77%	94%
Did the nurse explain what they would be doing today before starting?	77%	94%
Did the nurse ask if you had any questions or concerns?	57%	96%
Did the nurse listen carefully to what you said?	82%	99%
Was your privacy respected during your visit?	81%	98%
Did the nurse ask you if you have any difficulties taking your medication?	51%	91%
Did the nurse explain your blood results in a way that was clear to you?	45%	96%

In-depth interviews provided further insights into clients' experience of care:

"We were not treated very nice in those days. I don't want to lie. Now things are going well... Like today they were educating us. In other clinics they would say that thing is a waste of time."

"It's better here at the clinic now because if you miss the appointment, they talk with you in a good manner."

"They used to shout at us, and if you ask for your file, they won't entertain you, but now it's better. If you ask for your file, they give you attention."

"I felt welcomed and important. We treated each other well. They talked well with me, and I also talked well with them."

Conclusions: Both survey data and in-depth interviews showed positive shifts in clients' perceptions of quality of care, suggesting that person-centred care approaches can contribute to improvement in client experience. These findings highlight the potential value of integrating PCC approaches into public health strategies and programs.

EP0919

Strengthening the implementation of individual patient tracking sheet to improve continuity in HIV care in Nkurenkuru District, Namibia

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Background: In July 2022, Namibia launched the Standard Operating Procedure (SOP) for Tracing and Post-tracing Activities for Clients Receiving Anti-Retroviral Treatment (ART). A key tool included in the SOP is the use of individual patient tracking sheet booklets to improve the retention rate for clients on ART. In December 2023, Namibia's Nkurenkuru District reported a retention rate of 90.7%, which was below the national target of 95%.

A quality improvement (QI) project was undertaken to identify factors contributing to suboptimal performance and to improve retention in HIV care in Nkurenkuru District.

Description: A district QI team employed a root cause analysis to assess factors contributing to poor implementation of the individual patient tracking sheet and inform the selection of change ideas. Change ideas implemented included in-service training and one-on-one coaching to healthcare providers (HCPs), establishing a clear reporting system, developing a standardized data collection tool, and strengthening collaboration with community-based service providers. Change ideas were initially rolled out in January 2024 across five health facilities and then across the remaining 9 health facilities in the district in May 2024. Routine data from the electronic client monitoring system were used to measure retention in HIV care, defined as the proportion of ART clients active in care among all clients on ART. District-level retention in HIV care was analyzed and monitored monthly from December 2023 through July 2024.

Lessons learned: Over the initial roll-out period, district-level HIV retention rate improved from 90.7% (4350/4796) in December 2023 to 94.6% (4436/4688) in April 2024. After change ideas were implemented across all district facilities, the retention rate further improved from 94.8% (4419/4659) in May 2024 to 95.2% (4428/4654) in July 2024.

Conclusions/Next steps: The QI project resulted in improved implementation of the Tracing and Post-Tracing Activities SOP and improved HIV retention among PLHIV in Nkurenkuru District. Addressing knowledge gaps, establishing clear reporting processes, and providing adequate supervision can support improvements in retention in HIV care.

EP0920

Interventions supporting disclosure among children and adolescents living with HIV: a scoping review and realist analysis

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Background: Disclosure of HIV status remains a critical gap for children and adolescents, and is key to enhancing prevention, care, and treatment outcomes. Effective disclosure support needs to recognize children's and adolescents' evolving capacity for decision-making about their own health, their individual circumstances, their social support networks, and risks that may follow disclosure. However, global guidance has lagged for this group; the most recent child HIV disclosure guidelines from WHO are from 2011.

This scoping review and realist analysis aimed to identify existing interventions supporting child and adolescent disclosure since 2011 to support future guidance in this area.

Methods: A scoping review was conducted to identify interventions supporting HIV status disclosure to, and by, children and adolescents living with HIV. Evaluations using randomized controlled trial designs, as well as quasi-experimental, observational, and qualitative methods, were included.

We analyzed relevant interventions in two distinct ways. Disclosure-specific interventions, focused on disclosure of status as a common outcome or target, were analyzed using realist approaches to identify what works, for whom, in what circumstances. Broader interventions, which we termed disclosure-inclusive, were analyzed narratively.

Results: Disclosure-specific interventions (n=11) were typically targeted towards caregiver-child pairs, often including health providers. Realist analysis of disclosure-specific interventions generated three overarching themes, embedded in an overarching model: recognizing autonomy and dignity, enhancing engagement, and components linked to environment.

Strategies that promoted capacity among caregivers, enhanced opportunities for client engagement, and were developmentally appropriate led to better uptake and preparation for healthy disclosure. Disclosure-inclusive interventions (n=14) were more often focused on adolescents who knew their status, including onwards disclosure skills among other topics. Several interventions integrated multiple levels and sectors to enhance outcomes and improve child and adolescent environments.

Conclusions: Alongside these promising findings, we identified five emerging considerations for current and future disclosure interventions.

These include

1. Recognizing adolescent development and the evolving capacity for autonomous decision-making;
2. Addressing layered stigma and adopting rights-based approaches;
3. Enhancing measurement, monitoring, and evaluation; building support systems across families and communities, and
4). Integrating fluid approaches and innovation to an evolving epidemic. Key gaps and actions for each area will be presented.

EP0921

Enhancing retention and treatment uptake among adolescents interrupting HIV treatment in Nanyuki Teaching and Referral Hospital, Kenya

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Background: Retaining adolescents living with HIV (ALHIV) on treatment programs and ensuring viral suppression is essential for achieving the 2030 HIV epidemic control targets. Treatment interruptions among ALHIV remain a significant barrier.

This study highlights the outcomes of incorporating structured interventions during appointment visits to improve retention and treatment uptake, with a focus on promoting the principles of "Undetectable Equals Untransmitable" (U=U).

Methods: High numbers of treatment interrupters, averaging 6 per quarter in 2022, posed a significant challenge to achieving retention goals. To address this challenge, a multidisciplinary approach was adopted, integrating a return-to-care package, enhanced adherence counseling, psychosocial support groups, and groups like Operation Triple Zero (OTZ).

These strategies were applied during scheduled appointment visits to re-engage adolescents, address barriers, and promote adherence. Metrics included retention rates, viral suppression, and qualitative feedback from participants.

Results: The number of treatment interrupters reduced by 50% from 2022 to 2024, reflecting improved retention and treatment uptake. Adolescents who returned to care reported increased understanding of U=U and greater motivation to adhere to treatment.

Enhanced adherence counseling and psychosocial support sessions addressed key barriers such as stigma and mental health challenges, while focus groups provided peer and team support.

Conclusions: Incorporating a return-to-care package and enhanced adherence counseling during scheduled visits, alongside psychosocial support and focus group interventions, significantly reduces treatment interruptions and improves retention and viral suppression among ALHIV.

This multidisciplinary model offers a scalable and effective strategy to address barriers and achieve sustainable outcomes in adolescent HIV care.

EP0922

Enhanced m-health mental health screening for adolescents living with HIV transitioning into adult care (EMMATAC Study)

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Background: Growing evidence indicates that around half of all adolescents and young adults living with HIV experience mental health difficulties in Africa. The transition into adult care and psycho-social stressors may augment mental health illness symptoms and contribute to poor viral suppression. Despite this, less than 1% of adolescents and young adults living with HIV (AYALHIV) receive mental health screening as part of routine care in resource-limited settings that often have a scarcity of healthcare workers. Little is known about the determinants of mental health in this population.

The study investigates the feasibility, acceptability, and adaptability of a self-administered m-health-based mental health screening tool among 765 adolescents and young adults living with HIV in eight research sites in Nairobi County.

Methods: Between August 2022 and January 2023, we enrolled adolescents and young adults (AYA) aged 15-24 accessing care at eight clinics in Nairobi, Kenya. We excluded pregnant AYA, those without HIV disclosure, those with pre-existing mental health conditions, and those in acute stages of HIV (stage 3 or 4). Participants used a self-administered survey tool to screen for mental health issues, including General Anxiety Disorder (GAD-7), Depression (PHQ-9), Post-Traumatic Stress Disorder (PC-PTSD-5), and substance use (S2BI). We also evaluated the reach, feasibility, adaptability, and acceptability of the mental health routine screening.

Results: We enrolled 462 participants, 53.1% of whom were female, with a mean age of 19.2 years (SD 2.6). The mean age of HIV disclosure was 12.8 years (SD 3.4). PTSD

emerged as the most prevalent mental health condition (78%), followed by depression (40.4%) and generalized anxiety disorder (33.7%). Late HIV disclosure (after age 12) (p=0.01), ART treatment interruptions (p=0.009), and stigma (p=0.007) were independently associated with mental health conditions at 95% CI.

Participants rated the intervention's feasibility at 83% and its acceptability at 80%. Among participants, 88% expressed willingness to undergo screening again, with 61% preferring annual screenings.

Conclusions: This study successfully implemented self-screening for mental health among AYALHIV, achieving high feasibility and acceptance. The high prevalence of mental health conditions and strong participant support underline the importance of integrating routine mental health screening into HIV care.

EP0923

Tracing historical lost-to-follow-up lists: an intervention to find children living with HIV in rural South Africa

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Background: Ehlanzeni District is one of seven South African districts with the largest gap to achieving the second 95 target for children. Of the estimated 21,502 CLHIV, 8,826 are not in care. Despite a 30% increase in testing, the identification of new CLHIV remains low, necessitating alternative approaches. CLHIV in Ehlanzeni who miss appointments are routinely traced telephonically and/or physically.

If unsuccessful after 90 days, they are confirmed as lost-to-follow-up (LTFU). Right to Care (RTC) NPO partnered with community-based organization, mothers2mothers, to trace CLHIV in Ehlanzeni, historically categorized as LTFU, and link them to care.

Description: In June 2024, RTC generated historical LTFU lists for CLHIV (0–18 years) from 2019–2024 for 138 facilities in Ehlanzeni. Clients were telephonically traced; after three unsuccessful attempts, RTC engaged 52 mothers2mothers' peer educators to conduct home visits during July–September 2024.

Located clients were accompanied to clinics for re-initiation and connected with facility staff to ensure a closed referral loop. Outcomes of tracing efforts were documented and analyzed.

Lessons learned: Among 3,661 identified LTFU CLHIV: 1,193 (33%) were above 18 years old in 2024 and were not traced, 509 (14%) had no address, 358 (10%) were traced, and 1,601 (44%) are pending. Among the 358 traced, 52 (15%) were successfully re-linked to care, 102 (28%) were active at the same or a different clinic, 15 (4%) had relocated outside the district, 10 (3%) refused care, 2 (0.5%) were deceased, and 176 (49%) were not found.

Ideally, district-level electronic record searches should precede tracing to identify clients active at other facilities. Regularly updating contact details during clinic visits is crucial for improving trackability. Collaboration with community-based organizations is valuable and could be strengthened with a shared data collection system.

Conclusions/Next steps: Tracing 358 children and locating 52 was more resource-efficient compared to testing an estimated 13,000 children to identify 52 CLHIV (current positivity yield: 0.4%). We recommend enhancing this intervention (by developing a shared data collection system and searching district-level electronic records before tracing) and scaling it to other districts to improve treatment coverage among CLHIV.

EP0924

The role of group psychosocial support clinics in improving viral load suppression for children and adolescents living with HIV in Kigezi region

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Background: Group Psychosocial Support clinics for HIV-positive children provide services to help cope with their unique challenges. This effort is one of JCRC LPHS Kigezi & Lango Activity's comprehensive approaches to provide a supportive environment for providing peer support, counselling, and education on medication adherence. By addressing emotional and mental health needs, involving family members, and offering tailored interventions, these clinics help adolescents manage their condition more effectively.

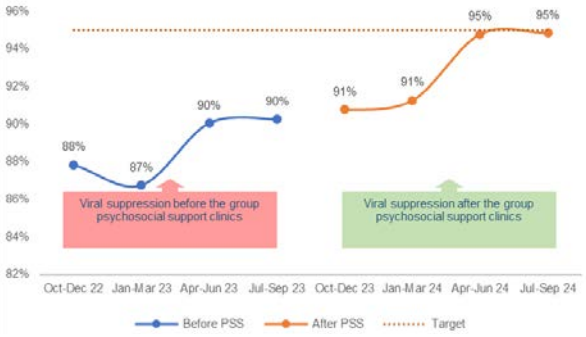
The initiative discussed was implemented to address viral suppression among children and adolescents following field results that showed; throughout 2023, the viral suppression for the children and adolescents 10 to 19 years averaged 89% falling short of the 95% UNAIDS target.

This was attributed to psychological, social, and economic barriers that affect adherence including; denial, fear, non-disclosure, stigma and discrimination, domestic violence, and lack of livelihood support for basics such as food. As a result, 20 health facilities were selected to pilot the group psychosocial support clinics with the aim of addressing the barriers identified from the root cause analysis undertaken.

Description: A stepwise approach was applied in implementation of the group psychosocial support clinics as follows.

- A root cause analysis was conducted to identify barriers to suppression.
- Trained and oriented the health workers on the provision of psychosocial support services and focal persons were identified
- Re-aligned appointments for adolescents to the designated adolescent clinic days with maximum of 30 adolescents was done. Sessions were categorized in two groups 10 – 14 and 15 – 19 to further discuss the topic(s) for the day.

Lessons learned: Suppression at the 20 health facilities improved from 90% in September 2023 to 95% in September 2024 realizing the 95% UNAIDS target.



Conclusions/Next steps: Leveraging group psychosocial support clinics to improving adherence to ART and providing holistic care is critical to achieving viral suppression and enhancing the quality of life for the adolescents.

EP0925

Closing the final gap to U = U: disparity between PLWH with and without undetectable viral load

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Background: By 2023, Taiwan has achieved the UNAIDS 2030 goals of "91-96-95", outperforming many countries. However, the social and demographic factors regarding why and how people living with HIV (PLWH) have not yet achieved undetectable viral load (UVL) have not been fully addressed yet in the literature.

Methods: A survey comprising 65 questions was administered online to adult GBMSM using social networking applications in Taiwan from November to December 2023. Basic demographics, HIV serostatus, sexual behaviors (e.g., numbers of sexual partners, condomless anal intercourse, self-reported sexually transmitted infections and conducts of chemsex), and preventive behaviors (e.g., doxy-PEP, mpox vaccine, and HPV vaccine) were collected. If the respondent reported positive HIV status, whether UVL has achieved was further asked.

Results: A total of 1,664 responses were completed and 328 (12.3%) who reported positive HIV serostatus were included in this study. Amongst, 309 (93.9) out of 328 have achieved UVL, while 19 (6.1%) reported detectable viral load. The mean age of PLWH without UVL was 33.1-year-old (SD 6.1), which was significantly younger than those with UVL (37-year-old, SD 7.7, p=0.041).

In univariable analysis, higher proportion of PLWH without UVL reported to have monthly income less than 45,000 New Taiwan Dollar than those with UVL (p=0.038), while PLWH without UVL reported more conducts of chemsex than PLWH with UVL (p=0.012). There was a significantly lower proportion of PLWH without UVL completing 2-dose mpox vaccine than PLWH with UVL (36.8% vs. 61.2%, p=0.043). Multivariable logistic regression showed PLWH without UVL conducted more chemsex (aOR: 2.89, 95% CI 1.09-7.75), and less completed 2-dose mpox vaccine (aOR: 0.36 95% CI 0.13-0.95).

PLWH without UVL vs PLWH with UVL	Univariable		Multivariable	
	OR (95% CI)	p-value	aOR (95% CI)	p-value
Sociodemographics				
Age (years old) (> 35 vs. ≤35)	0.31 (0.10-0.83)	0.028	0.35 (0.11-0.98)	0.058
Monthly Income (≧$45000NTD vs. <45000NTD)*	0.27 (0.06-0.82)	0.038	0.32 (0.07-1.01)	0.078
Sexual behaviors				
Numbers of male sexual partners in the last 12 months (≧6 vs. <6)	0.68 (0.22-1.84)	0.477		
CLAI in past 3 months (Yes vs. no)	1.74 (0.61-6.23)	0.335		
Self-reported STI in the lifetime (any kind vs. no)	1.53 (0.52-4.07)			
Chemsex for the past 3 months (Yes vs. no)	3.35 (1.30-8.72)	0.012	2.89 (1.09-7.75)	0.032
Preventive Behaviors				
Had Doxy-PEP use experience (Yes vs. no)	1.17 (0.06-6.33)	0.885		
Had Mpox Vaccination experience (vaccinated vs. unvaccinated/incomplete vaccinated)	0.37 (0.13-0.95)	0.043	0.36 (0.13-0.95)	0.044
Had HPV Vaccination experience (vaccinated vs. unvaccinated/incomplete vaccinated)	0.15 (0.01-0.76)	0.071		

PLWH: people living with HIV; UVL: undetectable viral load; CLAI: condomless anal intercourse; STI: sexually-transmitted infection; *$45,000NTD=$1,400USD

Conclusions: The study finds out that disparity between PLWH without and with UVL still exists, including the adoption of certain preventive strategies. Therefore, providing differentiated care services to improve health outcome among those in need is essential.

EP0926

Innovative proactive client appointment scheduling system to ameliorate congestion and improve continuity in HIV treatment in high volume facilities in Zambia

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Background: The rollout of universal access to antiretroviral treatment (ART) has significantly improved HIV prevention, reduced morbidity, mortality and contributed to epidemic control. The increasing demand for ART services has stretched healthcare infrastructure in Zambia, leading to overcrowding, long waiting times, and compromised quality of care. To address these challenges, Howard University's Differentiated Service Delivery-plus (DSD-plus) model was introduced and implemented.

This client-centered, proactive appointment scheduling system emphasized on appointments by date and time, appointment reminders, color coded cards and benches to optimize service delivery, reduce waiting times, improve client satisfaction, and ensure continuity in treatment.

The objective of this intervention was to optimize service delivery, reduce client waiting time, improve appointment adherence, client satisfaction, and continuity of ART care.

Methods: We assessed the impact of the proactive appointment scheduling system on waiting times and client satisfaction in 30 DSD-plus clinics, serving 131,760 ART clients from 2018 to 2024. We categorized clients into three

groups based on appointment adherence: green for on-time, yellow for early/late, and red for missed appointments. Clients received corresponding coloured-cards and benches, prioritizing those adhering to schedules. Longitudinal data analysis compared pre- and post-intervention outcomes, examining changes in waiting times, adherence to appointments, and client satisfaction over time.

Results: Intervention data showed significant improvements:

- Waiting times reduced from ≥4 hours to ≤45 minutes.
- Adherence to appointment increased from 50% to 96%.
- Client satisfaction improved from 50% to 99%.
- Concordance between appointment scheduling and attendance reached 100%.

Conclusions: The proactive appointment scheduling system effectively improved continuity in care for ART clients. By involving clients in appointment scheduling and rewarding on-time attendance; the intervention enhanced client satisfaction, reduced waiting times, and improved ART adherence. This approach is essential for sustaining long-term HIV treatment and highlights the importance of considering client preferences in healthcare decisions. Scaling-up and integration of such models are crucial for successful DSD interventions in Zambia and similar contexts.

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EP0927

Empowering HIV acceptance and disclosure through a peer-led, group based mental health Intervention, Sauti ya Vijana (SYV), for adolescents and young adults living with HIV (AYALWH) in Tanzania

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Background: Adolescents and young adults living with HIV (AYALWH) often struggle to accept their HIV diagnosis and fear disclosing to others. This can impact their mental health, adherence to antiretroviral therapy (ART), and viral suppression. These abstract reports disclosure patterns of AYALWH enrolled in the Sauti ya Vijana (SYV, the Voice of Youth) intervention and experiences practicing HIV disclosure in the SYV intervention.

Methods: SYV is a peer-led, group-based mental health and life skills intervention for individuals aged 10-24 years who:

1. Are aware of their status,
2. Attend HIV clinic,
3. Receive ART for at least six months, and;
4. Are willing and cognitively able to participate in group sessions.

Enrollment occurred March 2023 – July 2024 (follow-up is ongoing). Disclosure is a topic woven throughout SYV.

The cognitive behavioral therapy trauma narrative, uses a timeline help youth talk about memories; when they learned they live with HIV, and how they were before, after, and now. Youth practice telling their memory first in an individual session with a group leader; then sharing of the memory in the group; and finally their caregiver who knows their status, but listens to the memory of what the experience was like for the youth.

Disclosure information from the enrollment questionnaire along with session notes (AYALWH randomized to intervention arm) were reviewed for participation and thematic content analysis.

Results: Among the 690 participants, 84% (579) reported that their HIV status was intentionally disclosed to them, primarily by a family member (51%) or a healthcare provider (43%). In contrast, only 20% of youth reported intentionally disclosing their HIV status to someone else. Among the 248 sexually active participants, 42% (104) have disclosed their status to their sexual partner.

Of the 235 participants randomized to attend SYV sessions (intervention), 84% (197) attended the individual session, while 12% (206) were unable to attend the group session. Additionally, 75% (149/200) of caregivers participated in the sharing session.

Conclusions: Few AYALWH have intentionally disclosed their status to others. Peer-led interventions like SYV can help AYALWH practice disclosure safely by sharing their memory, practicing role plays, and considering steps of disclosure.

EP0928

Addressing barriers to continuity of HIV treatment in three health facilities in Ghana through root cause analysis and quality improvement initiatives

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Background: In Ghana, interruptions in treatment (IIT) present a significant challenge for achieving sustained viral suppression. We implemented a Root Cause Analysis (RCA) across three healthcare facilities with the highest IIT rates to identify and manage the factors influencing treatment interruption.

Methods: In June 2023, we used the five-whys technique[1] to interview 77 purposely-selected clients who returned to care after interrupting treatment in three health facilities in the Western region, the largest PEPFAR-supported region in Ghana. These sites had high treatment interruption cases. The main outcome of interest was the reason(s) for interrupting treatment. We used Microsoft

Excel to compile and analyze the data. Based on the initial analysis, we developed and delivered differentiated service delivery (DSD) approaches to improve treatment retention across these health facilities. We conducted follow-up qualitative interviews with a new set of clients at 6 months to assess any changes in the reasons for interrupting treatment.

Results: The majority of clients interviewed were female (64.6%), single (48.0%), self-employed (63.6%), living in an urban area (81.8%), and have secondary education (40.2%). The median age was 37 years (IQR: 18-61 years). The key causes of interruption were related to logistical challenges, including long travel distances to facilities (28.6%), lack of time for appointments (20.8%), and high costs associated with travel and receiving care (11.7%). Some clients interrupted treatment due to religious beliefs (13.0%) or stigma and discrimination (5.2%). Adverse treatment effects or health concerns were rarely indicated as a principal reason, with 3.9% delaying due to illness and 1.3% due to treatment issues. After delivering targeted DSD interventions including community ARV delivery, motivational counselling, education, and community engagement, 76.3% (261) clients returned to care within six months, of which a third (80) had anti-retrovirals delivered through home deliveries or other public transport systems. The number of clients reporting religious belief as a reason for interrupting care decreased by 50 percentage points.

Conclusions: These findings illustrate the effectiveness of root cause analysis-driven interventions in addressing treatment interruption and improving treatment continuity. This initiative highlights the value of structured problem analysis and tailored interventions in addressing treatment challenges, offering insights for developing client-centered care.

EP0929

Enhanced adherence counseling in the dolutegravir era: survey of current practice in PEPFAR programs

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Background: Viral load non-suppression (VLNS) on dolutegravir (DTG)-based antiretroviral therapy is more often due to inadequate adherence than drug resistance. World Health Organization guidelines recommend enhanced adherence counseling (EAC) for all individuals with VLNS, but EAC practices differ between countries. To improve adherence support across PEPFAR supported programs, we surveyed countries about their current EAC implementation, resources, and perceived needs for program improvement.

Methods: Thirty-one CDC country office teams were surveyed in March 2024 via a 25 item semi-structured form. Quantitative data were analyzed descriptively, and free-response data were analyzed thematically using modified grounded theory.

Results: The majority (22/31) of countries responded. Indications for EAC ranged from VL 50-1000 (median 1000, IQR 50-1000). EAC session length ranged from 5 to 60 minutes (median 16-30, IQR 5-15 to 31-60 minutes). Most countries (17/22) conducted 3 sessions prior to rechecking VL.

Only 10 reported that completing the sessions was the only requirement met before rechecking viral load—the majority specified that the counselor must believe that adherence has improved. EAC was provided in mostly clinical locations (21/22) though 9/22 programs offered phone or telemedicine EAC.

Lay counselors, nurses, clinicians, and expert clients provided EAC—few (3/22) countries reported having professional counselors available. Most (16/22) countries reported an individualized assessment of barriers for each client; 3/22 countries reported measuring client satisfaction with counseling.

All programs (22/22) relied on client self-report as the primary adherence measure, with 18 using additional measures (e.g. pill counts, pharmacy pick-up). No countries used point of care drug levels during counseling.

Additional resources like case management, mental health support, and socio-economic support were variable. Respondents noted opportunities to decrease travel burden to clinic, increase client self-efficacy, and improve access to mental health, substance use, and economic insecurity support.

Conclusions: Optimizing person-centered adherence services for clients with VLNS may aid in closing the viral suppression gap. We found heterogeneity in indication, length, location, cadre delivering EAC, and criteria for re-checking viral load, as well as structural barriers to care amenable to intervention. Development of these complementary services to support adherence may maximize the impact of potent DTG-based therapies.

EP0931

Addressing advanced HIV disease: strategies to reduce AIDS mortality in Brazil

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Background: In Brazil, around 1 million people are living with HIV (PLHIV). In 2024, 25% of PLHIV were diagnosed with advanced disease, with the possibility of a worse outcome. The Ministry of Health has therefore implemented the Advanced HIV Disease (AHD) response strategy, with the aim of rapidly diagnosing and treating opportunistic diseases and reducing AIDS mortality.

This study aims to describe the results of implementing the AHD response strategy in 2023 and 2024.

Methods: This is a descriptive study based on the implementation of the AHD response strategy between June 2023 and November 2024 in 22 cities in five Brazilian states. The AHD response strategy offers a package

of care that includes rapid testing: immunochromatographic CD4, urine lipoarabinomannan (LAM), urine histoplasma antigen (HistoAg) and cryptococcal antigen (CrAg), in addition to prioritizing the care of PLHIV with advanced disease in health services, linkage strategies, initiation of antiretroviral therapy (ART), treatments and prevention of tuberculosis and cryptococcosis.

Results: The AHD response strategy covered 5,094 PLHIV. The sociodemographic profile showed high social vulnerability: 58% brown, 21% gay or men who have sex with men, 42% aged between 25 and 39 and 39% had up to 7 years of schooling. Of the total number of people, 33% were located through reengagement strategies.

As for the tests, 3,711 people (73%) underwent LAM, 27% of whom were reactive. Of the total number of reactive, 63% PLHIV had no respiratory symptoms; 3,578 underwent CrAg (4% were reactive) and 1,597 underwent HistoAg, 16% of whom were reactive. Of those who had an indication, 61% underwent prophylaxis with sufamethoxazole-trimethoprim. Of the 3,749 people who started ART, 44% started within 7 days of diagnosis, as recommended in the national clinical protocol.

Conclusions: The strategy of responding to advanced HIV disease has been consolidated as a fundamental tool for tackling AIDS mortality in Brazil, by rapidly diagnosing and treating the main opportunistic diseases.

This approach reinforces the importance of access to comprehensive care to improve the quality of life of PLHIV, consolidating advances in the response to the epidemic.

EP0932

Transforming HIV care: reducing stigma and enhancing U=U communication through community engagement and creative interventions

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Background: This programme aimed to enhance HIV care at Chi Mei Medical Center in southern Taiwan by addressing stigma as a barrier to treatment and promoting U=U communication. Targeting healthcare providers across departments, it focused on education, creative engagement, advocacy, and community collaboration to increase U=U awareness, reduce stigma-related behaviors, foster person-centered care, and ensure sustainable improvements in HIV treatment delivery.

Description: From March to December 2024, the project applied the HEALTHQUAL QIS+D framework to improve medical friendliness among healthcare providers. Using quality control circle (QCC) methods, key interventions included:

- **Educational Reform:** Multi-disciplinary training and testimonials from PLHIV to build knowledge and empathy.
- **Creative Engagement:** Hosting "Friendly Healthcare Day" in the hospital, featuring stigma-reduction activities such as role-playing games, workshops, and a drag queen performance to challenge stereotypes.
- **Community Collaboration:** Partnering with NGOs to bridge gaps between healthcare providers and communities, strengthening U=U communication.
- **Advocacy:** Disseminating educational videos and conducting flash campaigns across hospital units to promote behavioral change.

Lessons learned: The programme achieved significant improvements. U=U awareness increased from 15.1% to 24.6%, psychological stress during blood draws decreased from 42.1% to 12.8%, and discrimination reports fell from 14.8% to 8.7%. The hospital's viral suppression rate reached 98% in 2024, surpassing Taiwan's national average of 96%, underscoring the impact of integrating stigma reduction into HIV care.

Integrated strategies combining education, creative engagement, and advocacy proved effective. Testimonials from PLHIV fostered empathy, while clear U=U communication enhanced understanding and reduced misconceptions. Challenges such as scheduling conflicts highlighted the need for flexible interventions, including e-learning modules.

Conclusions/Next steps: This initiative underscores the importance of U=U communication, community engagement, and innovative education in reducing stigma and improving HIV care. Creative interventions, such as the drag queen performance, and collaboration with NGOs fostered empathy and inclusivity. Future plans include scaling these strategies to regional hospitals and integrating digital tools to sustain impact. This programme offers a replicable model for advancing stigma-free, equitable HIV care globally.

EP0933

The impact of partner support in driving differentiated service delivery implementation in Zimbabwe: insights from technical assisted and non-technical assisted districts

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Background: Zimbabwe started implementing differentiated service delivery (DSD) models for ART (DART) in 2017 and has been conducting DSD reviews annually since 2018. The DSD reviews assess implementation progress and provide peer-learning opportunities to share best practices, challenges, and innovations. The 2024 DSD Review was conducted in July – August 2024.

Description: One hundred and forty-eight facilities in 31 districts from four provinces participated. Twenty-one (21) districts have additional support from United States President's Emergency Plan for AIDS Relief (PEPFAR) supported partners. Data was collected using Survey CTO and analysed using PowerBI generating frequencies and proportions. A facility survey and individual client survey tool were used. Data was abstracted from 4,630 files for recipients of care (RoCs) in the 12-, 24-, and 36-month cohorts on antiretroviral therapy (ART). Data was collected for services received from HIV testing to treatment outcomes, viral load monitoring, and integration with TB, and non-HIV services. We compared selected outcomes between the PEPFAR-supported districts and those without PEPFAR support (non–PEPFAR supported).

Lessons learned: PEPFAR-supported sites had lost to follow-up (LFTU) rates of 8% for 12months cohort, 11% for 24 months cohort, and 9% for 36 months cohorts whilst in non-PEPFAR supported sites LFTU rates were 16%, 20%, and 25% respectively. The conditional modified HIV cascade of Active on ART- Received Viral Load Test –Suppressed Viral Load was 76% - 71% - 97% for the 12-month cohort in PEPFAR-supported sites versus 75% - 50% - 97% in non–PEPFAR sites. Similar trend was seen for the 24-month and 36-month cohorts.

Conclusions/Next steps: PEPFAR-supported sites had superior retention compared to non-PEPFAR-supported sites, largely because of the additional staff, technical assistance, ICT gadgets, and airtime they received. The same is provided to the non–PEPFAR–supported districts but not to the same extent. The findings showed that these differences in support have an impact on the quality of services provided. Sustainability plans must identify critical support services that must remain to ensure maintenance of quality service provision.

EP0934

Improving viral suppression among children living with HIV in CMMB-Haiti network

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Background: Viral suppression (VS) among children remains widely suboptimal at 46%, and only 73% of CLHIV maintain VS over 3 years. Haiti's pediatric guidelines mandate a standard care package comprising enhanced counseling for caregivers and medical evaluation for children with a VL <1000 copies/ml. Because CLHIV VS remains low, CMMB's ALESIDA2 introduced an "optimized care package" children in 22 healthcare institutions. Pediatric VS rose to 88% in September 2023 among 920 CLHIV active in care. This research investigated how our package contributed to that success.

Methods: The optimized package adds at least one other targeted intervention (e.g., directly observed therapy or DOT; HIV status disclosure for preteens; VL class) to the standard package.

A mixed methods approach was used. A cohort analysis used secondary patient-level data, extracting quantitative data from EMR and site-level pediatric registers for unsuppressed HIV-positive children under 15 who had received care between October 2022–September 2023 in ALESIDA2-network clinics. A qualitative component involved semi-structured interviews with 11 providers, analyzed using directed, conventional, and summative content analysis approaches.

Results: The analysis included 125 unsuppressed CLHIV (43.2%F, 56.8%M; 52.80% aged 10-14; 68% rural; 92.8% without comorbidities). Of caregivers, 73.6% were biological parents, 20.8% other family members. 12% of the study group received the standard package, 88% the optimized package. Only 60% of standard package recipients were suppressed at study conclusion, compared to 85.45% of optimized package beneficiaries. 84.48% of children on DOT became undetectable by year-end, 76.1% of other participants. 81.33% of those taking at least one VL class became suppressed, 77.92% of those receiving individual counselling. 81.58% of preteens initiating disclosure became suppressed, 79.31% of others.

The research supports provider confidence in the optimized package. Respondents praising the optimized package highlighted DOT and VL class effectiveness and described disclosure challenges.

Conclusions: The ALESIDA2 optimized care package has shown significantly higher VS among initially unsuppressed CLHIV compared to standard care. Success stories, general revelations about improved VS, and positive caregiver reactions—elicited in interviews—highlighted the optimized package's impact. Interventions emphasizing group interactions, adherence reinforcement, and patient engagement in care are key to improve viral suppression toward epidemic control.

EP0935

High viral load suppression after implementation of an asset-based strategy - "Operation Triple Zero" - for children, adolescents and young people on ART in four health facilities of South Sudan

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Background: Amid a severe humanitarian crisis, South Sudan remains committed to a 95% viral coverage (VLC) and suppression (VLS) among people on ART. Adolescents/young people receiving ART experience lower rates of VLC/VLS delaying the achievement of the UNAIDS target if not addressed. It is critical children achieve sustained VLS to mitigate the exceptionally high mortality associated with unsuccessful HIV treatment. To address low VLC/VLS rates among children, the "Operation Triple Zero" (OTZ) program was implemented by the Catholic Medical Mission Board (CMMB).

Description: Between October 2023 and September 2024, 425 children aged 10 – 24 years on ART were enrolled into the OTZ program in four public facilities. The program is an asset-based strategy that aims at engaging children on ART to promote "zero missed appointments", "zero missed drugs" and "zero viral load". Key activities include VL eligibility assessment; routine and enhanced adherence counselling for participant, drug refills, role play and games, treatment literacy sessions, and sessions with caregivers. Data from the program was abstracted and analyzed for VLC and VLS after enrollment in the program.

Lessons learned: Out of the 425 clients enrolled in the program, 90 were eligible for viral load testing and 62 had their viral load samples collected, representing an overall VLC of 74%. Out of 67 whose viral load samples were collected 93% (range 93%-100%) achieved VLS; of these 51% were female and 49% male. All are on a DTG based regimen. All the children enrolled at Al Sabah Children's hospital suppressed their viral load. All the targeted clients continue with active engagement in the OTZ program to sustain the VLS.

Conclusions/Next steps: We describe the OTZ program to inform strategic interventions to reach the "third 95" among children. Children enrolled in the OTZ program had high VLS rates as compared to the lower averages among other children in South Sudan. As we move towards having 95% of ART-treated children achieve and maintain VLS, there is need to scale up similar programs for all children on ART with focus on inculcating children's self and social awareness, self-management, relationship management and responsible decision making among children on ART.

EP0936

Empowering youth to combat HIV stigma: a peer-led, human-centered approach to U=U awareness

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Background: HIV-related stigma and misinformation remain significant barriers to open dialogue, testing, and treatment adherence among adolescents and young people. Despite advancements in treatment, misconceptions about HIV transmission, particularly around the concept of U=U (Undetectable = Untransmittable), persist. This peer-led initiative aimed to increase understanding and acceptance of U=U through relatable, youth-centered storytelling and digital engagement, addressing both awareness and stigma reduction within this demographic.

Description: The intervention employed human-centered design thinking and storytelling to co-create the "Soa Story," a digital animation disseminated via social media to convey the U=U message. A total of 37 adolescents and young people participated in the development process, ensuring cultural and contextual relevance. In addition to online storytelling, 41 key informant interviews and 9 focus group discussions were conducted to explore target group perceptions, uncover stigma-related myths, and collaboratively identify solutions. These interactive sessions allowed participants to actively engage with U=U messaging, fostering a safe environment for open discussion on HIV and sexual health.

Lessons learned: The intervention resulted in a 73% increase in knowledge of U=U among participants, with 85% reporting increased confidence in supporting peers living with HIV who are undetectable. Social media analytics revealed a 149% increase in engagement with U=U-related content, with over 10,239 interactions recorded across platforms. The "Soa Story" animation reached 51,691 views, sparking open discussions and inquiries on HIV misconceptions. However, persistent stigma and misinformation among certain sub-groups indicated the need for ongoing, adaptive messaging strategies.

Conclusions/Next steps: Involving adolescents and young people in message creation ensured that content was relatable, culturally relevant, and impactful. Human-centered design and storytelling proved effective in engaging youth, though challenges remain in countering deep-rooted stigma and myths. Social media provided a powerful platform for awareness but required consistent moderation to address misinformation. Scaling this model across other regions and integrating it with school-based programs could enhance impact and long-term sustainability.

EP0937

Improving delivery of the advanced HIV disease package of care through monthly low CD4 count file audits: an ongoing intervention in rural South Africa

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Background: People living with Advanced HIV Disease (PLAHD) require a package of care to reduce morbidity and mortality. In South Africa, the absence of point-of-care CD4 testing often delays PLAHD identification and care. Right to Care NPO assessed management of PLAHD, in Ehlanzeni District, and intervened early where necessary.
Description: From July–October 2024, monthly file audits were conducted for PLAHD, in Ehlanzeni District, initiated on ART in the previous month with CD4 <200 cells/βL, identified using TIER.net. An Excel-based tool captured findings, and a specially designed job aid guided corrective actions. A retrospective secondary analysis of data was performed. Proportions were calculated for key demographic, clinical, and management indicators.
Lessons learned: Over four months, 1,021 (19%) PLAHD were identified from 5,286 new initiations across 138 facilities, and 661 (65%) files were audited. Most (85%) were aged 25–55 years, peaking at 35–39 years. More females were younger (<35 years) than males. All were initiated on ART; 84% started same-day (6% inappropriately). Nearly half (49%) had CD4 <100, and 28% had CD4 <50. Many gaps in care were identified. CrAg testing was documented for 97% (310) of eligible clients, with nine (3%) positive. Of these, eight were referred for lumbar puncture; four had no results, four had meningitis excluded, and six received fluconazole. TB screening was documented in 644 (99%); 22% were symptomatic, and 78% asymptomatic. TB-NAAT was performed for 511 (78%), with 56 (11%) positive. U-LAM testing was done for 182 (28%), with 45 (25%) positive. TPT was initiated in 534 (93%) of those eligible (80% at ART initiation), with 39 (7%) still needing to start. Cotrimoxazole was started in 423 (65%), while 35% still required it. Only 18% of women >15 years had a pap smear.. Of those with results, 63 (10%) had eGFR <50, 89 (27%) had haemoglobin<10g/dL, and 19 (5%) had hepatitis B.
Conclusions/Next steps: Specialized monthly file audits identified gaps in AHD care delivery, enabling early interventions for PLAHD, and targeted training at underperforming clinics. We recommend scaling up and continuing this approach until AHD management aligns with care standards.

EP0938

Updating PLHIV profile an essential tool in optimizing re-engagement in care

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Background: Client engagement is a dynamic state comprising retention in care, medication adherence and keeping clinical as well as laboratory appointments. Thus, client engagement is critical in achieving good health outcomes for PLHIV. AIDS Healthcare Foundation provides treatment for about 32,000 clients in Nigeria across 7 states, ensuring they are continuously engaged in care. Back in Care is an initiative to facilitate the re-engagement of clients who are No-Longer-in-Care for more than 12-months as part of efforts to achieve the UNAIDS 95-95-95 global goal.
Methods: Clients who are No-Longer-in-Care (NLIC) across 17 facilities in 7 states were line listed for tracking and re-engagement in care. Trackers, other service providers, including expert clients were trained and deployed to conduct client tracking. Phone and physical tracking approaches were adopted. Active tracking was conducted between August and December 2023. Clients unreachable through phone tracking were physically tracked to their homes using registered address.
Results: Of the 1754 NLIC clients, 73% were tracked by phone-calls. 41% were reached directly and 9% through their next-of-kin. Of the 50% not reached though phone tracking, 50% were tracked physically and 49% were reached. 43% of the total tracked physically and reached were re-engaged in care and 13% of clients tracked through phone either directly or next-of-kin and reached were re-engaged in care.
Conclusions: Client's contact details, next-of-kin and physical address should be validated at every clinical visit as this is essential to re-engagement in care when clients become NLIC. Also, client re-engagement in HIV care should be a continuous exercise. Clients who are NLIC should be periodically line-listed and scheduled for tracking to facilitate their re-engagement in care as this will improve quality of life of PLWH and prevent HIV transmission.

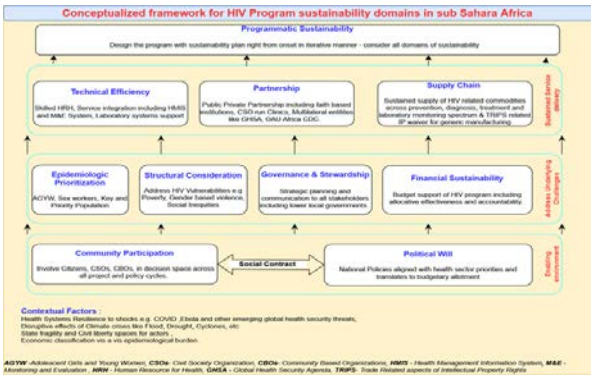
Global and national financing, economic evaluation and sustainability

EP0939

HIV program sustainability beyond external assistance in sub-Saharan Africa: a framework synthesis

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Background: The global goal of ending HIV/AIDS as a public health threat by 2030 has driven significant investment with vivid progress in sub Saharan Africa; translating to human capital development. However, as external support declines, national governments face challenges sustaining these gains. Existing literature largely emphasizes financial sustainability, neglecting other critical domains. This study aims to develop a framework identifying evidence-based domains for sustaining HIV programs in SSA beyond financial aspects.
Methods: Scoping review and a "best fit" framework of evidence synthesis method was used. A database search for literature, guidelines, and policies on HIV program sustainability from PubMed, Web of Science, CABI Global Health, Medline, and Google Scholar for 10-year period (2014- 2024). Grey literature on sustainability from HIV program related organizations were included. A total of 33 research publications and 7 policy documents on sustainability were reviewed. Through a deductive approach, an 'a priori framework' was identified for concurrent analysis of selected papers. A "best fit" framework was then inductively generated through charting and coding the evidence themes against domains of the "a priori framework". Emerging themes formed new domains of the framework.
Results:



Conclusions: Ensuring sustainability of HIV programs after donor exit in SSA will require efforts that tackle structural, social, and other equally important non-financial domains of sustainability including contextual factors like disruptive climate crises, pandemics, increasing state fragility and reducing civic spaces, all stakeholders need to be involved throughout the program cycle in iterative manner. there is a growing political will to integrate HIV services within the Universal Health Coverage (UHC) agenda, but this is not translated into financial commitment and prioritization of key populations. The paradigm shift of HIV funding within multilateral entity like the global health security agenda presents an opportunity to continue supporting HIV programs that are not prioritized for domestic funding yet pose epidemiological burden.

EP0940

Estimation of the premium cost for integration of HIV/AIDS, tuberculosis, and family planning into the health benefit package in Nigeria

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Background: Nigeria continues to develop sustainable models that will provide solutions to vertical disease implementation and fragmentations caused by declining donor funding. Integration is now a growing priority in the context of the AIDS response and has the potential to improve the quality and continuity of care for those living with HIV. We provided an estimation of the premium cost of the additional benefits for HIV, Tuberculosis, and Family Planning in Nigeria.
Description: We estimate the actuarial cost of proposed scenarios and additional benefits to Nigeria's health insurance benefit package and determine the appropriate premium for enrollees to standard benefit plans. This supports the government plan towards paying the premium on vulnerable populations, including those living with HIV. Therefore, we developed a costing model that provides an estimation of the premium cost of additional benefits for HIV, TB, and FP and provides recommendations to ensure adequate integration.
Lessons learned: Given the significant policy interest in scaling up integration, we carried out a large-scale costing study to model the impact of the additional benefits to the current plan. The incremental premiums for three plan options ranged from ₦ 134 to ₦ 557 (0.1 – 0.4 USD) per person per year under four scenarios differing by hospital categories and benefit limits. The additional benefits can be offered as part of the package of benefits or can be outsourced as a benefit package. Several key factors including robust provider network, tariffs, alternative reimbursement methodologies, investment performance, techniques to attract and retain members such as lifestyle loyalty programs, and medical second opinions, should be monitored and controlled to ensure that the additional benefits add to the sustainability of the national health insurance scheme.

Conclusions/Next steps: This estimation of the premium cost towards integration of HIV, TB, and FP largely supports the integration of vertical disease programming and toward accelerating universal health coverage.
Our findings show that integrating the full complement into the base benefit packages will not much change the premium.
The premium rates suggested have been adjusted for expected medical inflation in premium rates and tariffs, bearing in mind that exchange rate fluctuations and a tariff-adjusted rate of 15% are necessary.

EP0941

Towards sustainable HIV Financing in Nigeria: insights from NASA 2019–2021

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Background: Nigeria's HIV response has historically relied on external funding, with 96% of financing in 2021 sourced from international donors. This heavy dependency poses risks to the sustainability of HIV programs. The National AIDS Spending Assessment (NASA) 2019–2021 analyzed resource flows, highlighting gaps in domestic financing and the need for long-term solutions to ensure the continuity of critical services.
Methods: The NASA methodology utilized a top-down and bottom-up approach to track HIV expenditure across public, private, and international funding streams. Data on financing schemes, production factors, and service delivery modalities were collected from key stakeholders, including government entities, donors, and implementing organizations.
Analyses focused on trends in resource allocation, coverage gaps, and the alignment of investments with national priorities.
Results: Total HIV spending decreased from $560.3M in 2017 to $437.8M in 2021. Public sector contributions dropped from $23.1M in 2019 to $17.1M in 2021, representing less than 4% of overall financing. Meanwhile, international donors accounted for 96% of total funding in 2021, with PEPFAR contributing 76% and the Global Fund 19%. ART funding targets were met; however, domestic investments in prevention and testing services lagged significantly, comprising only 9% of total expenditure in 2021.
Additionally, resource allocation for key populations and community-based interventions remained insufficient, highlighting equity gaps.
Conclusions: To reduce donor dependency and ensure program sustainability, Nigeria must prioritize domestic resource mobilization. Key recommendations include integrating HIV services into health insurance schemes, enhancing private sector engagement, and increasing public budgetary allocations for prevention and testing. Strengthening data systems and adopting consumption-based estimation methodologies are critical for improving accountability and resource planning. These measures will support a resilient and self-reliant HIV response in Nigeria.

EP0942

Beyond grants: HIV community-based organizations (CBOs) innovate with revenue-generating social enterprises

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Background: HIV-focused community-based organizations led by at-risk populations face sustainability challenges as donor funding declines, necessitating diversified financial strategies. Since 2023, EpiC project has supported social enterprise start-ups (SEs) in five Asian countries, enabling CSOs to generate alternative revenue and enhance financial sustainability.
Initiatives include a fee-based clinic in Cambodia, an online pharmacy in India, a café in the Philippines, a meeting facility in Nepal, and a women-focused wellness center in Kazakhstan.
Description: The project classifies SEs into six critical growth stages, offering tailored support at each step. This framework is a blend of both academic principles and actionable steps to support social entrepreneurs through different stages of their journey.

Stage	Description	Tailored Support
Pre-Seed	Exploring income models without a business idea	Financial model development and exploring available funding options
Concept	Developing a nascent business idea	Refining a lean business canvas and identifying key assumptions to test
Validation	Having a business idea to test in the market	Testing the business plan through customer feedback
Start-up	Selling products/services on a small scale	Accessing capital, financial modeling, go-to-market planning, and progress tracking
Growth	Generating revenue and expanding	Mentorship on management and leadership
Maturity	Achieving optimal scale and revenue goals	Access to growth capital and advanced management mentorship

Lessons learned: Social Enterprises that received targeted business growth support succeeded in generating business revenue and diversifying incomes. The table below summarizes SE stage progress and revenue figures.

Business	Durations of Business Operations	Annual Revenue in FY24	SE Stage
Online pharmacy (India)	18 years	$206,537	Growth
Fee-based clinic (Cambodia)	2 years	$28,267	Start-up
Venue rental space (Nepal)	8 months	$10,258	Start-up
Coffee shop (Philippines)	1 month	$1,806	Start-up

The generated revenues have funded community-benefiting activities, e.g. subsidizing wart treatment for clients at a Cambodian clinic and assisting over 1,000 PLHIV to access subsidized ART via online pharmacy in India.

Conclusions/Next steps: Social enterprises (SEs) offer a flexible and sustainable funding model, complimenting grants from donors while prioritizing community impacts. With proper technical assistance and investment, SEs drive long-term financial resilience and adaptability, enabling CSOs to thrive in evolving funding landscapes.

EP0943

Beginning with the end in mind: the case of the DREAMS program for sustainability attainment for adolescent girls and young women in Phalombe District, Malawi

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Background: In Malawi, practice dictates that the Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (DREAMS) program, designed to prevent HIV infection among adolescent girls and young women (AGYW), be implemented by local or international nongovernmental organizations (NGOs) before transitioning to government for anticipated local ownership and sustainability. The FHI360's Meeting Targets and Maintaining Epidemic Control (EpiC) project in Malawi implemented a DREAMS component targeting exploited girls and young women. EpiC aimed to fast-track government ownership of the DREAMs program by innovating and providing technical assistance (TA) to the government's Department of Social Welfare (DSW) from the design phase to full implementation.

Description: In October 2022, EpiC engaged the DSW to implement an innovative, differentiated service delivery model to leverage its existing community activities for the DREAMS program. EpiC obtained government buy-in by providing TA that included dedicated officers assigned to the DSW to provide mentorship and ensure that the fidelity and quality of DREAMS interventions were maintained. The DSW facilitated community mapping and integrated DREAMS activities in its annual workplans. EpiC trained DSW Child Protection Officers to deliver individual primary, secondary, and economic strengthening interventions using the Ministry of Health-approved DREAMS Layering Toolkit. Officers facilitated community engagement and identified girls willing to lead the establishment of clubs. Club leads were trained in skills to mobilize peers for HIV prevention services including PrEP, family planning, and economic empowerment.

Lessons learned: By successfully integrating the DREAMS program into its annual workplans and the district development plans, the DSW demonstrated ownership and sustainability intent. The DSW integrated DREAMS implementation into its existing activities, establishing 48 clubs and enrolling 1,209 AGYW. Of these, 1,193 completed the primary package of services, 1,080 were tested for HIV (two tested positive and were linked to treatment), 829 initiated PrEP, and 840 received family planning.

Conclusions/Next steps: Findings reveal that tailored TA and mentorship for government departments, in this case the DSW, have potential for them to implement DREAMS programming. This HIV prevention model provides alternative approaches to implementing DREAMS programming by shifting from an NGO-dependent tradition to government-led programs premised on fast-tracking the government's commitment to ownership and sustainability.

EP0944

Estimating national HIV expenditures: a global analysis of investments for people living with HIV and antiretroviral therapy by income classification

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Background: As the global community approaches the 2030 target of ending the HIV epidemic, understanding the allocation and sustainability of HIV funding across income groups is crucial.

This study provided a comprehensive analysis of HIV expenditures from 2014–2022, stratified by national income classifications and aligned with progress toward achieving the 95-95-95 target in HIV care.

Methods: A retrospective analysis of HIV expenditure data was conducted using public datasets, including UNAIDS Global AIDS Monitoring and World Bank classifications. Data were adjusted for purchasing power parity (PPP) to ensure cross-country and temporal comparability. Per-unit expenditures were calculated, using expenditures associated with HIV care and antiretroviral therapy (ART), paired with the estimated number of people living with HIV (PLHIV) and users in antiretroviral therapy (ART). All expenditures were reported in USD.

Results: From 2014 to 2022, annual expenditures per PLHIV and per PLHIV on ART, adjusted for PPP, showed notable variations across income groups. In low-income countries (LICs), median expenditures per PLHIV decreased from $636 in 2014 to $484 in 2022. Lower-middle-income countries (LMICs) exhibited modest changes, decreasing from $1,499 to $1,230, while upper-middle-income countries (UMICs) increased from $1,595 to $2,143.

Annual spending per PLHIV on ART declined in LICs, from $576 in 2014 to $402 in 2022, while LMICs fell from $1162 to $594, and UMICs went from $761 to $755. Annual ARV spending also decreased: LICs dropped from $208 to $193, LMICs increased from $134 in 2015 (no 2014 data available) to $292, and UMICs fell from $761 to $464.

Globally, median expenditures per PLHIV on ART declined as countries approached the 95% treatment target, from $906 (41-50%) to $294 (90-100%).

Conclusions: This study showed declining per-unit expenditures for PLHIV and HIV treatment in LICs and LMICs, with efficiency gains as countries approach 95-95-95 targets. Differences in spending across income groups underscore the importance of focused investments to address gaps in LICs and expand access to care.

Strategic investments to improve ART coverage are crucial for ensuring efficient and equitable resource allocation, which can significantly contribute to sustaining progress toward ending the HIV epidemic by 2030.

EP0945

Improving access to private health insurance for communities affected with HIV in India: challenges and recommendations

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Background: In India, where the world's second-largest population of people affected with HIV resides, high out-of-pocket (OOP) healthcare expenditures pose a significant barrier to both sustainability and quality of life (QoL). The financial burden of accessing healthcare for PLHIV is substantial, with monthly OOP expenses consuming a large portion of their income, which is, on average, 34% lower than that of non-HIV households. This leads to increased vulnerability to poverty. Private health insurance could reduce this financial burden, but significant barriers exist.

Description: Out of 2.47 million Person Living with HIV in India, an estimated 1.48 million (60%) remain uninsured, only 4% using private healthcare, while 96% depend on government services, often facing overcrowding and HIV stigma.

This study aimed to identify the enablers and barriers to enrolling in health insurance, exploring both demand and supply-side challenges. It included a desk review of 95 secondary sources, 10 key informant interviews (KIIs) with NGOs, CBOs, and insurance companies, and 4 focus group discussions (FGDs) with healthcare providers and community networks.

Lessons learned: The findings revealed that communities affected with HIV OOP expenses range from USD 12 to USD 80 per month. Insurance companies often view People Living with HIV as high-risk, leading to higher premiums and reluctance to market products. The absence of specific actuarial data makes product design challenging, pushing insurers to rely on external data. People Living with HIV with employer-based insurance also face difficulties, as the fear of discrimination discourages them from submitting medical records for reimbursements or renewing insurance. Other barriers include unaffordable premiums, CD4 count-based enrollment restrictions, limited OPD coverage, long waiting periods before coverage begins, and frequent claims rejections.

A framework was developed to address the needs of both insurers and communities . It emphasized the importance of low-cost, high-volume insurance plans with a diversified risk pool. Increased awareness and more product options could strengthen communities bargaining power, while regulatory support can help shape demand and supply.

Conclusions/Next steps: Engaging the private sector is vital for ensuring the sustainability of HIV healthcare in India. Collective action from all stakeholders is necessary to overcome barriers and ensure equitable healthcare coverage for communities.

EP0946

Monetary contributions from users to a community sexual health clinic in Guatemala during 2023 and 2024

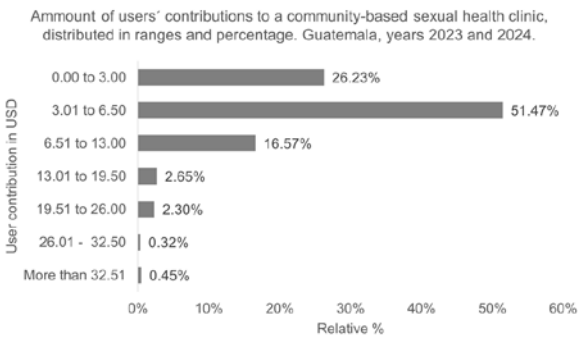
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Background: Combined HIV prevention programmes for key population in Guatemala are highly dependent on external cooperation ccording to the local AIDS Expenditure Measurement. Alternatives such as monetary and voluntary contributions from users for the sustainability of services need to be explored in a scenario where the Global Fund withdraws its funding.

Description: About 10,000 people are assisted per year in a community-based combined HIV prevention clinic in Guatemela, providing screening for HIV, syphilis and hepatitis. PrEP, PEP and STI diagnosis and treatment. People come from metropolitan area mainly and 85% are self-reported as MSM and 14% general population. Global Fund and PEPFAR support mainly this cinic and during 2023 and 2024 a campaign was implemented to collect voluntary contributions from users who attended for some service.

These contributions could be made in cash or by credit or debit card and a receipt authorized by the Superintendency of Tax Administration of Guatemala was issued. Regardless of whether the person makes a contribution or not, attention is focused on the person.



Lessons learned: In 2023, 20% of the clinic's operating costs were financed by contributions from beneficiary users. Although some users were sceptical about making a contribution, in 2024 the contribution increased, covering 30% of the clinic's operating expenses, which amount is around US$200,000 without considering administrative costs and costs of supplies such as screening tests and reagents.

Conclusions/Next steps: User inputs can be representative in the sustainability of HIV combination prevention services in key populations. It is necessary to implement communication and social marketing actions to raise awareness of the importance of sustainability of services. But services also need to be implemented from a person-centred and community-led approach. Transparent use of resources and open communication of the need to the community through digital and print channels are also relevant factors in this exercise.

EP0947

Comparing carbon emissions from oral Truvada for PrEP and long-acting injectable CAB for HIV prevention in PEPFAR-supported countries

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Background: Oral Truvada has been successfully scaled through PEPFAR, but adherence challenges have driven increased interest in long-acting injectables (LAIs) such as CAB-LA, which demonstrate superior clinical efficacy for HIV prevention. With PEPFAR and the Global Fund committing to scaling LAIs, including Lenacapavir, to achieve 2 million person-years (PYs) of HIV prevention over the next three years, understanding the environmental implications of this transition is critical.

This analysis estimates and compares greenhouse gas (GHG) emissions from oral Truvada and CAB-LA, focusing on the significant contribution of active pharmaceutical ingredient (API) production to overall emissions.

Methods: We estimated CO_2 emissions for 2 million PYs of HIV prevention with oral Truvada and CAB-LA across the 10 PEPFAR-supported countries with the highest PrEP use. Using emissions factors for API production, we calculated CO_2 emissions per kilogram of API required for dosing 2 million PYs.

Sensitivity analyses explored scenarios of CAB-LA adoption at 12.5%, 25%, and 50% of PrEP users over two years, modeling potential GHG reductions from gradual LAI uptake. To ensure a conservative comparison, emissions related to transport, clinic visits, and freight were excluded.

Results: For 2 million person-years (PYs) of HIV prevention, oral Truvada was estimated to generate 92 million kilograms of CO_2, compared to 3.5 million kilograms of CO_2 for CAB-LA. This represents a >96% reduction in greenhouse gas (GHG) emissions when fully transitioning from oral Truvada to LAI. Projections for different adoption scenarios revealed that slower uptake of CAB-LA would lead to more modest reductions in emissions; if only 12.5% of PrEP users transitioned to CAB-LA over two years, the reduction in CO_2 emissions would be approximately 12%. In contrast, a more ambitious scale-up—achieving 50% of PrEP users on CAB-LA within two years—would generate a 48% reduction in emissions.

Conclusions: Shifting from oral Truvada to CAB-LA offers dual benefits: superior clinical efficacy and significant GHG emission reductions. While this analysis focuses on CAB-LA, similar benefits may extend to Lenacapavir as data become available.

These findings highlight the importance of integrating sustainability into global HIV prevention strategies, aligning health outcomes with global climate goals.

EP0948

A novel approach to sustainability planning of HIV and TB programmes in South Africa

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Background: South Africa (SA) has the world's highest HIV epidemic and is amongst the countries with the largest burden of TB. SA government contributes the largest proportion of funding for HIV and TB programmes, but other international funders also contribute significant fund and technical support. Despite the reliance of some programmes on external funding and predicted funding shortfalls, SA lacked a concise Sustainability planning platform, resulting in poor guidance for funders and uncertainty regarding sustainability of HIV/TB programmes. The South African National AIDS Council (SANAC) began the process of development of the National Sustainability Framework (NSF) to ensure that interventions remain on track to attain the national strategic plan goals and maintain the responses beyond 2030.

Description: The NSF development process involved the establishment of a multisectoral technical working group (TWG) for planning oversight. Initial steps involved expert consultations and public consultations, and literature reviews to formulate the NSF that was subsequently validated and approved SANAC coordination structures. The NSF comprises six sustainability domains including financial, epidemic control, service delivery, critical enablers, governance and accountability, and support systems for health. It comprises twenty national programme goals across the six domains.

The accompanying Sustainability assessment and Transition planning tools developed are currently being used for subnational Sustainability and Transition plans. The NSF been updated to align with the latest UNAIDS Sustainability principles and guidance.

Lessons learned: Effective Sustainability planning requires collective understanding and interpretation of Sustainability concepts and arrangements, best achieved through the NSF. The multisectoral TWG is critical in ensuring effective leadership and consistent Sustainability planning. Regular assessments of sustainability arrangements are essential to achievement of Sustainability goals.

Conclusions/Next steps: The NSF has enabled structured approach to sustainability diagnostic assessments and the developing responsive actions. The next steps involve the consolidation of subnational plans into a national Sustainability and Transition plan that will align with the outcomes of the current health reforms in SA. The institutionalisation of Sustainability planning is a critical added step to ensure adequate accountability of Sustainability plans by all stakeholders.

EP0949

Bridging the equity gap: real-world applications of long-acting HIV prevention technologies in low- and middle-income countries

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Background: Long-acting HIV prevention technologies, including injectable antiretrovirals and monoclonal antibodies, have revolutionized global HIV prevention efforts. However, the uptake of these innovations in low- and middle-income countries (LMICs) remains hindered by systemic barriers such as limited healthcare infrastructure, financial constraints, cultural stigma, and inequitable distribution. Addressing these challenges is essential to ensure the sustainable and inclusive deployment of these groundbreaking interventions, particularly for marginalized populations disproportionately affected by HIV.
Methods: This study employed a mixed-methods approach, including a systematic literature review, policy analysis, and community-based participatory research. Data were gathered from peer-reviewed journals, policy reports, and case studies of successful HIV prevention interventions in LMICs. Emphasis was placed on identifying structural, cultural, and economic barriers to the adoption of long-acting HIV prevention technologies and assessing best practices for scalable, equitable implementation
Results: The analysis identified three primary barriers: inadequate healthcare infrastructure to deliver long-acting technologies, affordability issues exacerbated by limited funding and high costs, and sociocultural factors such as stigma and lack of awareness in target populations. Successful interventions in certain LMICs demonstrated that community engagement, integration of HIV prevention with other healthcare services, and subsidized pricing models significantly improved access and uptake. However, these approaches remain underutilized and lack broader scalability.
Conclusions: Equitable access to long-acting HIV prevention technologies in LMICs requires targeted strategies addressing healthcare delivery gaps, financial barriers, and cultural stigma. This research highlights the importance of engaging local communities, implementing culturally tailored programs, and fostering global partnerships to drive policy and funding reforms. Bridging these gaps has the potential to transform HIV prevention in LMICs, significantly reducing HIV incidence and improving health outcomes for vulnerable populations.

EP0950

Strategic financial, and leadership directions for HIV NGOs in South Africa beyond 2030 when HIV is no longer a public health emergency

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Background: Due to sustainable lifesaving ARVs and effective prevention programming, HIV will no longer be a public health threat by 2030 as projected by funders. This also poses survival challenges to NGOs that have, for decades lived on HIV funding.
This paper investigates the NGO strategic options for financial, human resources, and leadership for the post-2030 period when HIV will no longer be considered an emergency disease.
Methods: A cross section of ten national HIV NGOs' and global development partners' senior managers was purposively selected and interviewed using in-depth interviews in 2024. Data were analysed through inductive analysis methods using NVivo to identify themes.
Results: Five key themes emerged from the study. These include: the challenging NGO strategic environment, diverse financial strategic options, human-competence strategic options, the NGO model of change to deal with business uncertainty and the negative effects of the post-2030 HIV non-emergency phase.
Data shows that the senior managers' strategic options include denying that HIV will be phased out as an emergency public-health problem in the post-2030 period, having a passive response to the challenge, diversifying revenue sources for sustainability, and actively engaging in new and alternative non-traditional revenue sources for sustainability.
A priority strategy is seen as the development of social enterprises for revenue development and to plough the funds back into the NGO; this is seen as a requirement for NGOs to start implementing sustainability ahead of the challenging times.
Acquiring social skills and enabling NGO staff to have strong information technology and artificial intelligence skills in the post-2030 period could help harness the opportunities presented to the NGOs.
Conclusions: The study is a wake-up call for many in the development, donor, and NGO sectors. Strategies are required against catastrophe among many HIV NGOs to avoid dependence on donors.

EP0951

Key opportunities to integrate Activity-Based Costing and Management (ABC/M) into existing health data systems and decision-making processes

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Background: Activity-Based Costing and Management (ABC/M) is a client-centered approach to measuring health service delivery costs. By combining direct observation of resources used during health service provision, client exit interviews, and above service delivery-level cost calculations, ABC/M data can be used to identify inefficiencies, cost drivers, possible areas for task-shifting, and adherence to normative health service processes. Policymakers can use ABC/M findings to inform budget prioritization, facility assessments, and sustainability planning. The United States Agency for International Development (USAID) Analytics for Advancing the Financial Sustainability of the HIV/AIDS Response (AFS) project, which is supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR), provides technical assistance to five country governments implementing ABC/M and facilitates the convening of the Regional Technical Network (RTN), a South-South community of practice for resource optimization.
Description: The annual RTN forum fosters cross-country exchange on resource optimization, health financing, public financial management, and sustainability planning. Based on consultations with country delegations at the second RTN meeting and experience implementing ABC/M, AFS identified opportunities to integrate ABC/M into existing data collection and decision-making systems to advance HIV response sustainability.
Lessons learned: Tailored to each country's unique context, there are multiple opportunities to integrate ABC/M into existing country systems and processes. For example, Uganda's Ministry of Finance requested that the Ministry of Health include ABC/M calculations (e.g., average per-client cost of a health service) in budget request justifications. AFS is also exploring, with partner governments, the feasibility of incorporating ABC/M data fields into available electronic medical records and health management information systems which would allow for the simultaneous capture of cost and resource use data during provision of health services. Countries can also use ABC/M outputs as comparators during routine service quality checks.
Conclusions/Next steps: ABC/M offers unique insights into health service delivery through process maps and cost calculations. As countries move forward with these opportunities to integrate ABC/M data capture and use into their existing systems, the RTN and related convenings can provide future opportunities to share more of these lessons learned to support HIV sustainability planning.

EP0952

Moving towards sustainability: lessons learnt from two sustainability assessments of Voluntary Medical Male Circumcision program in Zambia

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Background: Zambia began offering Voluntary Medical Male Circumcision (VMMC) services in 2009, following a joint recommendation by WHO and UNAIDS in 2007. The program has scaled up successfully, with over 5.5 million men circumcised. Initially supported by Implementing Partners, VMMC transitioned into a routine HIV prevention intervention integrated into Primary Health Services. To measure this transition, the Ministry of Health (MOH), with support from the Clinton Health Access Initiative (CHAI), launched the VMMC Transition and Sustainability Plan and the VMMC Transition Assessment Dashboard (VTAD) in 2019. The MOH defines the sustainability of the VMMC program as increasing country ownership to ensure the program's continuity by addressing specific geographical and population transition needs regarding finance, institutionalization, and service delivery. The VTAD measures progress towards six sustainability goals, with assessments conducted in 2019 and 2020.
Methods: Using convenience sampling, program implementation data was collected from 40 districts across Zambia's 10 provinces. This data was obtained through focus group discussions with members of Provincial and District Health teams, including Health Directors, VMMC coordinators, and Health Promotion Officers. Excel workbooks and Google Docs were used to record and collect scores from preset questionnaires. The collected data from the assessments were uploaded into a visual dashboard in Tableau online and analyzed pillar by pillar, comparing the two assessments.
Results: The Supply Chain showed the largest improvement with a 37% increase. Leadership, governance, and coordination saw a 14% increase. Service Delivery improved by 2%, and demand generation by 9%. Monitoring and Evaluation (M&E) and Resource Mobilization both increased by 12%. These incremental changes could generate significant impact over time.
Conclusions: Several lessons were learned from the assessment to build a resilient sustainable VMMC program. Integrated HIV prevention service delivery at all levels of care fosters acceptability and cost-effectiveness. Sustainability should be country-led and defined. Sustainability assessment tools should be designed according to the country-specific definition of sustainability. Transition to sustainability should be gradual and start at the initial

stage of project or program implementation. Senior government leadership should take center stage in the sustainability agenda. The program will use these lessons to implement these findings and replicate in other programs.

EP0953

Impact of incorporating fostemsavir for rescue therapy in Brazil

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Background: Fostemsavir (FTR) is a fusion inhibitor that binds directly to glycoprotein 120 (gp120) located on the viral envelope. This molecule does not present cross-resistance with other classes of antiretrovirals (ARV) and has a favorable adverse event profile, representing an important treatment alternative for multidrug-resistant people living with HIV (PLH). In Brazil, it is estimated that around 500 PLWHA, in the early stages of incorporation, need this drug to continue their treatment and ensure virological suppression and quality of life.
However, the price of ARV was prohibitive and constituted a barrier to incorporation into the Unified Health System (SUS) and access for people who need it. This study aims to discuss access and sustainability in the incorporation of FTR, based on prices and patents.
Methods: The initial price was taken from the Maximum Sales Price to the Government (PMVG) of the Chamber for the Regulation of the Medication Market (CMED); and the final price of the report by the National Commission for the Incorporation of Technologies into the SUS (Conitec). A search for a patent barrier was conducted in Orange Book, Patent Register, Patent Opposition Database, Medspal, WIPO PatentScope and Espacenet.
Results: The initial price, in December 2023, varied from US$ 45.75 (without taxes) to US$ 60.74 (22% taxes) for one tablet of FTR. The final agreed price, in 2024, was US$ 38.67 for one tablet of FTR. One granted patent of FTR was found, whose expiration is scheduled for March 2025, thus constituting a barrier to access and contributing to the high price.
Conclusions: The incorporation of FTR represents an important gain in third-line therapy for multidrug-resistant PLH. However, there is a large difference between the initial price set by CMED and the final negotiated price, indicating that this mechanism may not be effective in regulating high prices. Additionally, due to patent expiration and possible offers of generic versions, there is space for price reduction in the next acquisition.
Additionally, continuous monitoring of national and international prices is necessary, as well as the patent situation to ensure universal access and sustainability of SUS.

EP0954

Compulsory vs. voluntary licensing: good for the people or to the market?

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Background: Patents are property titles tha grant exclusive rights, blocking others from manufacturing, using, or selling the product. This enables pharmaceutical companies to impose high prices, limit competition, and exploit essential needs. Compulsory licensing (CL) is a public health safeguard that allows governments to authorize medicine production without the patent holder's consent. Voluntary licensing (VL), however, is an agreement between the patent holder and a third party under specific terms. This study examines access to ARVs in Brazil through CL and VL, focusing on efavirenz (EFZ) and dolutegravir (DTG).
Description: Since 2006, the Brazilian government has attempted to negotiate EFZ pricing with Merck, the patent holder. After receiving unsatisfactory price reduction proposals, the government issued a CL for EFZ in 2007, under strong social pressure and multisectoral mobilization. At that time, EFZ EFZ was the first-line treatment for HIV/AIDS in Brazil. DTG, now the first-line treatment in Brazil, was introduced in 2017 and is used by over 600,000 PLWHA.
In 2020, the public manufacturer Farmanguinhos/Fiocruz signed a bilateral VL with GlaxoSmithKline (GSK) for DTG technology transfer. However, this secret contract extended GSK's monopoly beyond 20 years, with prices 20 times higher than international benchmarks.
Despite the VL, Fiocruz only imports the drug, with no production steps carried out in Brazil. This situation benefits GSK while undermining local production and affordable access.
Lessons learned: The existence of VL agreements prevents the use of CL as a public health safeguard, these two measures are not only different, but sometimes even compete in guaranteeing lower prices, access to treatments and the sustainability of the health system.
The successful CL experience with EFZ in 2007 underscores the importance of multisectoral mobilization to eliminate commercial barriers that threaten universal healthcare.
Conclusions/Next steps: Pharmaceutical monopolies make Brazil dependent on secret contracts, prioritizing private over public interests. For new treatments, like lenacapavir, CL could eliminate patent barriers, enabling access and local production.
Transparency, justice, and public health must be prioritized. The DTG case demonstrates that VLs often favor private sectors, underscoring the need for public health safeguards to uphold universal healthcare.

EP0955

Optimizing HIV prevention investments: insights from resource mapping in Zimbabwe

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Background: The Zimbabwe National HIV and AIDS Strategic Plan 2020-2026 (ZNASP) serves as a guiding framework for ending HIV as a public health threat by 2030. However, to realize this goal, available resources should be targeted toward geographies and populations with the greatest unmet need and focused on high-impact prevention interventions. Further, amid evolving health priorities and decreasing funding support, it is essential to maximize the impact of every dollar by efficiently scaling up new interventions while sustaining and optimizing existing health programs.
Description: In Zimbabwe, the MOH is implementing an annual HIV prevention resource mapping and financial analyses to evaluate funding and intervention coverage, in line with ZNASP goals. This process complements national health resource tracking efforts, offering granular insights into resource flows by geography, population, intervention and cost classification.
Lessons learned: Since 2021, through an annual resource mapping and financial analysis process which engages key HIV prevention stakeholders the MOH and the NAC has identified key funding gaps, including: 1) insufficient resources for VMMC, STI, and condom programming; 2) underfunding for key populations programming in high-incidence regions. The gaps identified through the resource analysis directly influenced the Global Fund proposal for 2024–2026, ensuring more strategic resource allocation toward high-impact, cost-effective interventions in high-burden areas. As a result, overall HIV prevention funding in 2024-2026 increased by 38% from the 2020-2021 cycle.
Conclusions/Next steps: The HIV prevention resource analysis has been critical for advancing evidence-based planning, alignment with evolving priorities, and informing resource mobilization efforts. By shaping policy dialogue and informing investment decisions, it continues to drive strategic pivots and programmatic adjustments necessary to achieve national HIV prevention goals. The HIV prevention resource mapping and financial analysis, with its structured process and tools, offers a replicable model for implementation in other high-burden settings.

EP0956

Predictive modeling for optimising HIV resource allocation in Lagos State, Nigeria

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Background: Resource allocation is essential for enhancing HIV care, particularly in resource-constrained settings. The study aims to improve funding efficiency and align local HIV efforts with global health targets by developing a model that addresses resource challenges and offers valuable insights for policymakers to help Lagos State achieve its HIV and AIDS goals.
Methods: A quantitative approach was employed to analyse AIDS Spending in Lagos State, leveraging secondary data from State AIDS Spending Assessment reports, epidemiological records, and economic indicators. Data preprocessing included handling missing values, inflation adjustment, and normalisation. Exploratory Data Analysis (EDA) identified spending trends and key correlations. Predictive modeling employed machine learning algorithms for forecasting, with cross-validation ensuring reliability. Publicly available data ensured ethical standards.
Results: The findings showed a heavy reliance on international funds, accounting for 75.78% to 87.50% of total expenditure. Spending per capita and the proportion of GDP allocated to HIV response reveal a weak negative correlation with economic factors. Spending per capita decreased from 0.0062 in 2018 to 0.0024 in 2023, while the proportion of GDP decreased from 239.72 in 2018 to 11.01 in 2023. Predictive models like linear regression, random forests, and decision trees performed poorly, with negative R-squared values ranging from -0.0125 to -0.0113 and mean-squared errors around 529,652,025,898.91 USD. In contrast, Time Series forecasting successfully projected total spending for 2024 at approximately 35,860,609.44 USD, indicating stable spending patterns.
Conclusions: This study underscores the value of these predictive models and highlights critical funding gaps in Lagos State. Key stakeholders and policymakers should prioritise balanced funding, improved resource tracking, and diversifying funding sources. Future reprioritisation will refine these models and expand them to other regions for broader impact.

Costing, cost effectiveness and affordability

EP0957

A cost-utility analysis of an integrated mental health collaborative care model for adolescents and young adults living with HIV or at risk of HIV in Thailand

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Background: Mental health disorders (MHDs) are common amongst youth affected by HIV, resulting in poor clinical outcomes. Integrating psychological support into HIV services can improve access to mental healthcare. The collaborative care model (CoCM) is a form of integrated mental healthcare whereby non-specialists are guided by psychiatrists to deliver what were previously referral-level services.
This study aimed to conduct a cost-utility analysis of a mental health CoCM versus standard care (i.e., referring clients with MHDs directly to psychiatrists) for youth affected by HIV in Thailand.
Methods: Data were collected from clients aged 15-24 years living with or at risk of HIV, who were managed for depression, anxiety or mixed anxiety-depressive disorder using either CoCM or standard care (SC) at a youth sexual health clinic in Bangkok. Costing and mental health severity data (PHQ-9, GAD-7 and Clinical Global Impression-Severity scores) were collected from the medical records over 12 months, starting at the point of MHD diagnosis. Healthcare provider costs (labour, medication and training), out-of-pocket expenditures and opportunity costs of time were included and expressed as 2023 United States dollars (US$). MHD severity data were converted to utility weights used to calculate quality-adjusted life years (QALYs) using age/sex-specific 'Recovering Quality of Life-Utility Index' mapping models. Analyses were conducted using Stata.
Results: Data from 63 youth were analysed: 36 from CoCM (diagnosed with a MHD between 2020 and 2023) and 27 from SC (diagnosed between 2016 and 2020). Median ages were 21 and 19 years respectively. CoCM cost significantly less per client per year than SC: US$318 (95% CI: US$87-550) less from the societal perspective, US$142 (US$70-215) less from the provider perspective and US$41 (US$23-60) less from the client perspective (P<0.01). Both CoCM and SC were associated with a statistically significant mean QALY gain per client per year (12% and 8% respectively, P<0.001). There was no statistically significant difference in QALY gain between arms (P=0.37).
Conclusions: CoCM was less costly and at least *as* clinically effective as SC in our context, suggesting that CoCM would be a cost-effective way for the Thai health system to provide mental healthcare to youth living with or at risk of HIV.

EP0958

Gaps in HIV care: leveraging community volunteers to enhance health outcomes and cost effectiveness

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Background: HIV care delivery in resource-limited settings faces challenges such as inadequate access, stigma, and financial constraints. Community volunteers, as trusted intermediaries, offer a unique opportunity to bridge these gaps, enhancing health outcomes and cost-effectiveness. We explored the role of community volunteers in improving HIV prevention, care and treatment while reducing program costs.
Description: An implementation science approach was employed to assess the integration of trained community volunteers into HIV care delivery in Kampala city, Uganda. Volunteers conducted community-based testing, provided adherence counseling, and facilitated linkage to care. Specialized roles such as Cervical Cancer Screeners, Non-Communicable Disease Screeners, HIV Testing Services Screeners, and Tuberculosis Monitors focused on disease prevention and early detection. Peer-driven support was delivered by Peer Adolescents, Peer Mothers, Young Adolescent Peer Supporters, and Key Population Peers, targeting high-risk and vulnerable groups. Data clerks and laboratory trainees ensured accurate data management and diagnostics. Quantitative data on HIV testing uptake, care retention, viral suppression, and program costs were collected from thirty-two facilities over 12 months, complemented by qualitative feedback from clients and providers.
Lessons learned: The integration of community volunteers from October 2023 to September 2024 resulted in a 34% increase in HIV testing uptake and a 96% retention rate in care, supporting a total of 115,991 clients. Viral suppression rates reached an impressive 97%. Specifically, volunteer TB screeners increased TB case notifications by **40%** (from 916 to 1,279) and TB cases by **9%** (from 414 to 451). TB treatment initiation also saw a **5% increase** (from 414 to 434).
Task-shifting and community-level service delivery contributed to a 46.49% reduction in operational costs, with volunteers accounting for only 3.51% of the total wage cost. Volunteers played pivotal roles in reducing stigma, building trust, and addressing cultural barriers, demonstrating both significant financial savings and improved organizational efficiency.

Conclusions/Next steps: Community volunteers are a cost-effective and impactful strategy for enhancing HIV care delivery in resource-limited settings. Their contributions improve testing, care retention, and viral suppression while reducing program costs. Scaling up this model, coupled with ongoing training and stronger health system linkages, offers a sustainable solution for advancing HIV care outcomes.

EP0959

Optimizing HIV prevention through integrated supervision: a scalable approach for sustainable and comprehensive care

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Background: In health programmes, supportive supervision is essential for ensuring high-quality service delivery. In Zambia, traditional technical supportive supervision for HIV prevention processes have been infrequent and narrowly focused on select prevention interventions, mainly the VMMC and PMTCT programmes. These limitations were compounded by the lack of structured follow-up to ensure recommendations are implemented.
To address these challenges, the Ministry of Health (MOH), in collaboration with CHAI, introduced the Integrated Technical Supportive Supervision (iTSS) process in 2021.
Description: The iTSS approach unifies supervision practices across HIV prevention interventions and key components include:

1. **Comprehensive facility assessments:** Evaluating service delivery, workforce capacity, demand generation, supply chain, and quality assurance in 24 facilities.
2. **Collaborative action planning:** Co-developing action plans with clear timelines and responsibilities alongside facility staff.
3. **Targeted capacity building:** Mentoring and training over 350 facility staff to implement all HIV prevention interventions.
4. **Follow-up visits:** Providing ongoing support to ensure accountability and sustained improvements in service delivery.

Between 2022-2024, adherence to national guidelines improved across key interventions, including VMMC, PrEP/PEP, condoms, HTS, PMTCT, and STI services.
Additionally, the integrated framework delivered significant cost savings of $6,000 per facility annually (a 70% reduction), with savings reinvested in follow-up visits to ensure consistent oversight and scale the process effectively.

Costs	Unit Costs	Siloed Process (all interventions assessed at different times	Integrated Process (all interventions assessed at the same time
Fuel costs for transportation	$1.15/km	$621	$104
Drivers for transportation	$102/day	$1,836	$306
Government per diem – national and subnational	$140/day	$5,040	$840
Total costs per facility		**$7,497**	**$1,286**

Lessons learned: The iTSS process highlights the strategic value of integrating interventions, reducing duplication, and optimizing resources. Structured follow-up ensures accountability and sustained improvements in service delivery.
Achieving a 70% cost reduction enabled reinvestment in oversight and continuous improvement. Targeted mentorship proved critical in building workforce capacity to deliver comprehensive HIV prevention care.
Conclusions/Next steps: The iTSS approach offers a scalable, replicable model for integrating HIV prevention interventions while addressing client needs and enhancing program impact. By addressing capacity gaps and ensuring sustained improvements, it provides a pathway for sustainable, high-quality HIV prevention services in Zambia and other similar settings.

EP0960

Cost effectiveness analysis of HIV pre-exposure prophylaxis services in selected states in Southern Nigeria

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Background: Pre-exposure Prophylaxis (PrEP) for preventing HIV acquisition in at-risk population is established. However, limited studies are available to evaluate its cost effectiveness in Nigeria. The objective of this study is to evaluate the cost effectiveness of PrEP services in four Southern states in Nigeria. The main outcomes evaluated included number of QALYs gained, number of HIV acquisitions averted, deaths averted, cost gained and the ICER of the intervention.
Methods: The population included were men who have sex with men, people who inject drugs, sex workers and other general population in four states in Southern Nigeria - Cross River, Ekiti, Edo and Osun. Two main scenarios were compared. One where PrEP was implemented for clients and the counterfactual in which PrEP was not available. A deterministic model was constructed to evaluate the cost effectiveness. A micro-costing approach was used. The parameters were derived from multiple data sources including meta-analysis studies, government records, and interviews with essential key informants. We

conducted the analysis through a provider perspective over a time horizon of 40 years and discounted at 3% per annum for both cost and QALYs with assumptions of 99% effectiveness and 95% adherence. We conducted a Markov model to assess the quality adjusted life years and the cost of intervention. We conducted a Probabilistic Sensitivity Analysis, using Monte Carlo simulations to account for uncertainties using 1,000 iterations.

Results: A total of 15,841 clients were provided PrEP services between July 2023 and June 2024. A total of 3901 HIV acquisitions and 481 deaths were averted over the remaining lifetimes of 40 years. The total base incremental QALYs was 25,061.9 with an average of 1.6 per client. When discounted the incremental QALYs and average per client was 12248.5 and 0.8 per client respectively. The incremental cost was $17,004,128.2 and average per client was $1073.4. The ICER obtained was -$703.6/QALY which was dominant over the counterfactual.

Conclusions: PrEP intervention is cost effective in Southern Nigeria. It is important for different HIV programs to prioritize expanding its coverage among eligible clients in Southern Nigeria.

EP0961

Addressing period poverty through social entrepreneurship: AHF's GIRLS ACT gender-sensitive approach to reduce HIV vulnerabilities in Sierra Leone

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Background: Access to safe and hygienic menstrual products remains a challenge for several young women and girls due to several reasons including financial constraints and the cultural taboos associated with menstruation. These limitations increase their vulnerabilities to sexual and reproductive health diseases, including HIV.

Sustainable approaches that incorporate education and access to affordable menstrual products can significantly address these vulnerabilities and improve their overall health.

Description: AIDS Healthcare Foundation (AHF) through its flagship GIRLS ACT initiative and partnership with Happy Kids and Adolescent, implemented educational programs and empowered over 150 young persons across 4 communities in 4 districts in Sierra Leone over the past 5 years to be able to make reusable menstrual pads from locally sourced materials. This empowerment created safe space for open discussions, mass distribution of re-usable pads in underserved communities and using the GIRLS ACT club members to sensitize their peers in the community on menstrual hygiene and other sexual and reproductive health issues. Members also received opportunities to market their product to other partners in Sierra Leone.

Lessons learned: Through this initiative and partnership, over 7000 menstrual pads have been distributed and findings from the focused group discussions among the beneficiaries reveled that they feel more confident and self-aware. It also allowed them to generate income for themselves while promoting environmental awareness as well as healthy habits among their peers and the community. Through the gender inclusiveness approach of the initiative, it has helped to reduce stigma, challenged cultural taboos, and fostered shared responsibility for menstrual hygiene. Boys have become vocal advocates for menstrual hygiene, with many actively producing pads for their families and communities. Empowered by this initiative, young people now take the lead in advocacy efforts, raising awareness about menstrual hygiene and other sexual and reproductive health issues within their communities.

Conclusions/Next steps: Gender-inclusive and sustainable strategies that combine education, and social entrepreneurship can transform efforts to address period poverty, reduce vulnerabilities to HIV, and tackle other sexual and reproductive health challenges. These approaches empower young people to take control of their health and well-being while fostering long-term positive change in their communities.

EP0962

Intention to use and cost-benefit analysis of long-acting lenacapavir for HIV pre-exposure prophylaxis among cisgender women experiencing incarceration in northcentral Nigeria: a cross-sectional pharmacoeconomic assessment of community perspective

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Background: Long-acting Lenacapavir (LEN) offers a promising HIV prevention strategy especially for risk acquisition population such as cisgender women experiencing incarceration (WEI). Understanding their acceptance of the drug and the cost implications would help policy making in improving access to the twice-yearly HIV pre-exposure prophylaxis (PrEP) medication. This study explored the intention to use and the willingness to pay

for Lenacapavir among incarcerated cisgender females in Nigeria, providing insights to inform policy and implementation strategies.

Methods: Employing a cross-sectional study design, we used an 11-item structured and self-administered validated questionnaire to collect data from (WEI) in eight facilities in northcentral Nigeria. Data was collected between November 2024 and January 2025 using snowball sampling techniques. Cost-benefit analysis was done using contingent valuation, with descriptive and inferential analysis conducted on others using IBM SPSS version 27.0, with significance level set as $p < 0.05$.

Results: We had 80 respondents (response rate: 80.0%), with a mean age of 34.2 ± 8.4 years. Among the respondents, 56 (70.0%) completed primary education, and 48 (60.0%) had served two or more years in prison (n=48). Most of the respondents (n=58, 72.0%) expressed willingness to use long-acting LEN for PrEP. Convenience (n = 52, 65%) and long-lasting protection (n = 40, 50%) were the two most reported reasons for their expression of willingness to use LEN.

However, reported barriers were cost (n = 36, 45.0%) and fear of injections (n = 24, 30.0%). Pharmacoeconomic analysis showed that LEN was cost-effective with an incremental cost-effectiveness ratio (ICER) of $400 per quality-adjusted life year gained.

The predictors of willingness to use LEN were higher knowledge of HIV (aOR: 3.4; 95% CI: 2.0–5.8) and trust in healthcare providers (aOR: 2.9; 95% CI: 1.7–4.6).

Conclusions: The intention to use Lenacapavir among women experiencing incarceration in northcentral Nigeria is high, with a favorable cost-benefit analysis outcome. To enhance the use of Lenacapavir in correctional facilities, barriers such as cost should be addressed.

Additionally, targeted health education and consistent communication and confidentiality should be built between healthcare providers and their WEI clients to improve trust.

EP0963

Exploring the possibility of ending HIV/AIDS in Nigeria by 2030: a holistic perspective on policy scenarios and resource allocation using SmartHIV Manager

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Background: Low- and middle-income countries (LMICs), including Nigeria, face significant challenges in addressing the HIV/AIDS epidemic due to a substantial at-risk population, particularly young adults and key populations, and disparities in healthcare accessibility.

Achieving the UNAIDS 2030 goal of ending the HIV/AIDS epidemic requires an integrated approach encompassing prevention, treatment, and addressing social determinants of health.

Methods: This study evaluates four policy scenarios using SmartHIV Manager™, an AI-powered decision support tool designed to assist policymakers in tracking progress and optimizing interventions. The scenarios consider varying degrees of community involvement, prevention program access, and treatment cascade improvement. Data were analyzed to assess reductions in new infections, HIV-related deaths, cost-effectiveness, and societal impacts.

Results: The baseline scenario highlights the current challenges, while Scenarios 2 and 3 demonstrate substantial improvements. Scenario 2, emphasizing enhanced prevention accessibility, achieved a 70% reduction in new infections and a 55% reduction in deaths compared to baseline. Scenario 3, focused on strengthening the treatment cascade, resulted in a 98% reduction in new infections and an 82% decrease in deaths. These scenarios demonstrated high cost-effectiveness, with costs per life saved at $6,803 and $4,573, and costs per infection averted ranging from $12,356 to $17,922. These findings underscore the critical impact of scaling up prevention initiatives and treatment services nationally.

Conclusions: Ending HIV/AIDS in Nigeria by 2030 is achievable with collaborative, evidence-based, and community-driven strategies supported by user-friendly digital tools like SmartHIV Manager. Scaling up prevention programs, enhancing treatment cascades, and addressing societal drivers such as stigma, low HIV literacy, and social prejudice are essential. Real-time data tracking and adaptive policymaking will enable planners to identify gaps, refine interventions, and optimize resource allocation, ensuring the success of integrated and cost-effective strategies. This study highlights the transformative potential of combining digital innovation with holistic approaches to tackle the HIV epidemic in LMICs.

EP0964

Integrating HIV prevention training into pre-service nursing curriculum: a cost-effective workforce capacity-building model

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Background: HIV remains a critical public health burden in Zimbabwe , necessitating a robust and well-equipped healthcare workforce to drive evidence-based prevention strategies. In 2023, integrated comprehensive HIV prevention service delivery training was included into the nursing pre-service training curriculum.

This strategic intervention sought to institutionalise sustainable workforce capacity while mitigating dependence on high-cost, fragmented in-service training frameworks. The revised curriculum encompasses Volun-

tary Medical Male Circumcision (VMMC), Pre-Exposure Prophylaxis (PrEP), STI programming and HIV Testing Services (HTS), which were prioritised based on evidence indicating their impact on HIV transmission reduction. Trainee nurses are trained in these core competencies, ensuring their preparedness at the point of workforce entry, reducing reliance on costly and fragmented in-service training models.

Methods: A cost comparison evaluation of in-service versus pre-service training models using programmatic budgets. Data was collected from financial records, program budgets, and stakeholder expenditure reports. Training costs included direct expenses—facilitator fees, training materials, venue hire, and per diems—with an analysis of indirect costs such as lost productivity due to workforce absence during in-service training pending.

Standardised cost assumptions were applied to calculate per-nurse training expenses under both models. For the pre-service model, a 70% reduction in costs was assumed based on the streamlined integration of training into the existing curriculum.

Results: The conventional in-service model incurs an annual expenditure of $1,782,000 for 900 nurses, whereas the pre-service framework requires $534,600, yielding a cost avoidance of $1,247,400 annually (70%). Disaggregated savings include $617,400,200 from VMMC integration, and $315,000 each from PrEP and HTS training. Beyond cost savings, this model enhances workforce readiness by reducing onboarding times and ensuring competency-based education. Key performance metrics, such as knowledge retention, clinical proficiency assessments, and post-training service delivery rates, are being monitored to evaluate long-term effectiveness.

Conclusions: Integrating HIV prevention training into Zimbabwe's nursing pre-service curriculum is a cost-effective, sustainable solution for workforce development. Eliminating reliance on costly in-service training saves over $1 million annually and equips graduates to deliver high-quality prevention services immediately, enhancing workforce readiness and scalability.

EP0965

Out-of-pocket costs of seeking HIV care among young people living with HIV in Tanzania

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Background: Meeting the 95/95/95 targets will require a renewed focus on young people living with HIV (YPLWH), who now represent a large and growing proportion of the global HIV epidemic. Understanding the out-of-pocket costs incurred by YPLWH when seeking HIV care is crucial to developing new models of care, interventions, and policies that meet the needs of this patient population.

This study reports the out-of-pocket costs incurred by YPLWH seeking HIV care enrolled in the Sauti ya Vijana (SYV) clinical trial in Tanzania.

Methods: SYV is a peer-led mental health and life skills intervention designed to improve clinical HIV outcomes among YPLWH in Tanzania. Participants were enrolled from March 2023 to July 2024 with inclusion criteria: 1) 10-24 years of age, 2) attend an HIV clinic, 3) receive antiretroviral therapy for at least 6 months, and 4) know their HIV diagnosis. We adapted the Cost for Patients Questionnaire that captures patient direct medical, direct non-medical, and indirect costs associated with seeking HIV care. We report annual costs and compare these costs to the annual income across all trial participants.

Results: The SYV trial enrolled 690 participants. The median annual income among participants was USD 689.90 (IQR: 370.69 – 1,441.58). Median annual direct medical costs amounted to USD 10.69 (1.5% of annual income) for medical visits including those not related to HIV care and USD 19.01 (2.8% of annual income) for homecare related to HIV. Median annual direct non-medical costs amounted to USD 2.38 (0.3% of annual income) for transportation to HIV clinic appointments, USD 0.00 (0.0% of annual income) for food during time spent in the HIV clinic, USD 6.34 (0.9% of annual income) for childcare during time spent in the HIV clinic, and USD 3.17 (0.5% of annual income) for expenses related to bringing a companion to HIV clinic appointments. Median annual indirect costs amounted to USD 3.96 (0.6% of annual income) for income lost due to time spent at an HIV clinic.

Conclusions: These results provide evidence on the magnitude of out-of-pocket costs incurred by YPLWH seeking and obtaining HIV care in Tanzania, and may help inform national health policy decision-making and implementation.

Health systems, health systems strengthening and partnerships

EP0966

Comparing the impact of pick-up point type on adherence to laboratory monitoring guidelines for HIV and diabetes in South Africa's Central Chronic Medicine Dispensing (CCMDD) programme

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Background: South Africa's CCMDD programme allows clinically stable people living with chronic conditions, including HIV and diabetes mellitus (DM), the choice of collecting treatment at community- or clinic-based 'fast-track' pick-up points. We assessed whether type of pick-up point affected adherence to laboratory monitoring recommendations for HIV and DM.

Methods: We enrolled two contemporaneous observational cohorts of adults (≥18y) at time of CCMDD enrollment in Umlazi, KwaZulu-Natal:

1. HIV cohort from 8 public sector clinics (CCMDD-eligible if on ART ≥1y and virologically suppressed) and
2. DM cohort from a public hospital-based clinic (CCMDD-eligible if HbA1c ≤7% in past 6mo).

We assessed adherence to CCMDD eligibility criteria at baseline and laboratory monitoring guidelines at 12 months, focusing on pick-up point type (community vs. clinic), using multivariable regression models.

Results: Among 1,856 participants in the HIV cohort, 67% were female, with median age 36y (IQR 30-43). 1,774 (96%) had a suppressed viral load at CCMDD enrollment. Over half (977, 53%) chose community ART pick-up.

Overall, 1,390 (75%) had a 12-month viral load measurement. Among 210 participants in the DM cohort, 67% were female, with median age of 59y (IQR 50-65). Only 28 (13%) had HbA1c ≤7% at CCMDD enrollment. 90 (43%) opted for community pick-up. 110 (52%) had a 12-month HbA1c measurement. For both cohorts, opting for community (vs. clinic) pick-up point was not associated with having a laboratory measurement or meeting guideline criteria at 12 months *(Figure)*.

Conclusions: In this multi-site study of the CCMDD programme in South Africa, adherence to baseline eligibility and 12-month laboratory monitoring guidelines was better for HIV than DM. Choice of pick-up point (community vs. clinic) was not associated with adherence to monitoring guidelines. While community pick-up of medications for HIV and DM did not affect receipt of guideline-concordant care, monitoring for DM in CCMDD is suboptimal.

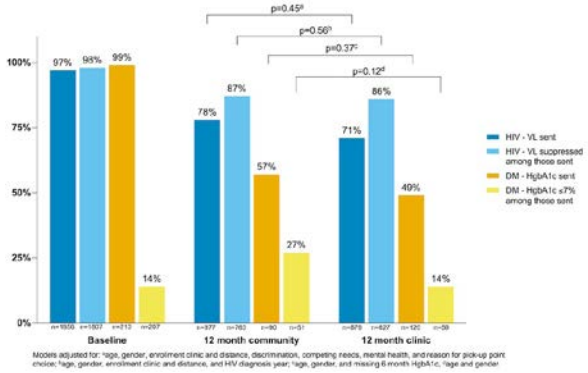


Figure.

EP0967

Insights from initial stakeholder engagement on one-stop PrEP provision: a qualitative analysis

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Background: Robust stakeholder engagement is essential to effective project implementation. We held an initial stakeholder engagement meeting in Kisumu County, Kenya, to garner input on a One-Stop Shop (OSS) Pre-Exposure Prophylaxis (PrEP) provision model.

Description: The One-Stop PrEP Care Project seeks to test the effectiveness of the 'OSS' to improve PrEP delivery and continuation in public health facilities (R01 MH 129234-0A1). Key stakeholders were purposefully identified and invited to a one-day meeting facilitated by the Ministry-of-Health PrEP focal person on September 12, 2023. Stakeholders were categorized into four groups: County health management teams (CHMT), facility in-charges, service providers, and PrEP implementing partners.

Discussions were guided by five thematic semi-structured questions focusing on the OSS model's benefits, challenges, and implementation strategies. We analyzed and reported findings using inductive thematic analysis.

Lessons learned: 50 participants attended the stakeholders' meeting. We had 18 CHMTs, 12 facility in-charges, 14 service providers, and 6 PrEP implementing partners.

All the groups unanimously agreed on the benefits of the OSS model because it is time-saving, improves service quality, and enhances client-provider relationships.

Anticipated challenges identified across all groups encompassed staff shortages, commodity stockouts, and limited space.

The proposed solutions included staff capacity-building and supply chain optimization. Implementing partners further suggested reinforcing demand creation and service integration by providing services other than PrEP, in

the OSS clinics, such as reproductive health services. Additional recommendations focused on staff motivation and flexible working hours to meet client needs effectively.

Conclusions/Next steps: This analysis underscores the importance of stakeholder engagement in implementing and sustaining effective PrEP delivery models in public health settings. Areas of agreement, convergence, and solutions to challenges of the OSS PrEP model were identified and incorporated into the ongoing implementation to improve PrEP service delivery.

EP0968

Strengthening health systems through key population mapping and size estimation: insights from Bauchi State, Nigeria

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Background: The Key Population Mapping and Size Estimation (KPSE) project in Bauchi State, Nigeria, aimed to understand the challenges faced by key populations (KPs) such as female sex workers (FSWs), men who have sex with men (MSM), people who inject drugs (PWID), and transgender individuals (TG) who are disproportionately impacted by HIV.

By utilizing the Multiple Source Capture-Recapture (MS-CRC) method, this project identified over 2,000 hotspots, many located in underserved areas, and revealed significant gaps in access to HIV prevention and care services.

Description: Implemented over six months, the project focused on hotspot mapping and population size estimation using MS-CRC methodology. It involved conducting surveys across 2,000+ hotspots, such as brothels, street locations, and uncompleted buildings, capturing essential demographic data. The results highlighted a key challenge: only 39.4% of hotspots were within 1 km of healthcare services.

The program integrated community leaders, trained over 70 field staff, and collaborated with healthcare providers to ensure accurate data collection. Through these efforts, it provided evidence to guide resource allocation for HIV services targeting KPs.

Lessons learned:

- Collaborative Engagement: Partnering with local stakeholders, including healthcare providers and community leaders, enhanced data accuracy and ensured culturally appropriate interventions.
- Accessibility to Services: The findings underscored the critical need for mobile health services and decentralized HIV care.
- Data-Driven Strategies: Utilizing Bayesian latent class modeling for population size estimates was crucial for resource allocation and designing focused interventions.
- Community Trust: Involving KPs in the process helped reduce stigma, leading to more effective and trusted data collection.
- Capacity Building: Training field data collectors ensured data reliability and fostered respect for KPs during the data gathering process.

Conclusions/Next steps: This project underscores the necessity for tailored, localized HIV interventions and service delivery models for KPs. The findings advocate for expanding mobile health clinics to reach underserved hotspots, strengthening partnerships with local leaders to address stigma, and enhancing data-driven decision-making for efficient resource allocation.

These initiatives will contribute to reducing HIV transmission and achieving the UNAIDS 95-95-95 targets, setting a precedent for more resilient, equitable healthcare responses in Bauchi State and beyond.

EP0969

Evaluating the role of health system capacities in the effectiveness of HIV interventions in Cameroon

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Background: This study assessed how Cameroon's health system's capabilities affect the efficacy of HIV interventions. It postulated that strong resources, qualified personnel, and a strong healthcare infrastructure would increase the effectiveness of prevention and treatment initiatives. The goal is to pinpoint important aspects of the health system that affect how well HIV interventions work to lower transmission and enhance care.

The study was carried out in four different regions of Cameroon: Garoua (North), Bafoussam (West), Douala (Littoral), and Yaoundé (Center) between January 2022 and December 2023.

Methods: A cross-sectional survey and a retrospective cohort analysis were combined in this study, which included 500 participants chosen through stratified random sampling to ensure representation of both genders and ages. Data were gathered via questionnaires, interviews, and evaluations of medical records, looking at metrics such as ARV access, healthcare staff density, and infrastructure quality. Key health system determinants influencing the effectiveness of HIV interventions were discovered by the study using multiple regression models and factor analysis. Participants comprised both medical professionals and people living with HIV.

Results: The study revealed a positive correlation between HIV intervention outcomes and health system capacities. Specifically, a 1% increase in healthcare worker density was associated with a 0.15 unit increase in the effectiveness of HIV treatment programs ($p < 0.05$). Access to ARVs showed a similar positive correlation, with a 1% increase in drug availability correlating with a 0.2 unit improvement in treatment adherence and viral suppression. Disaggregated by gender and age, women (45%) and individuals aged 30-45 years (50%) showed higher adherence rates than men and younger populations. Additionally, regions with better healthcare infrastructure (Yaoundé and Douala) demonstrated a 25% higher success rate in HIV prevention efforts, compared to regions with less robust healthcare systems (Bafoussam and Garoua).

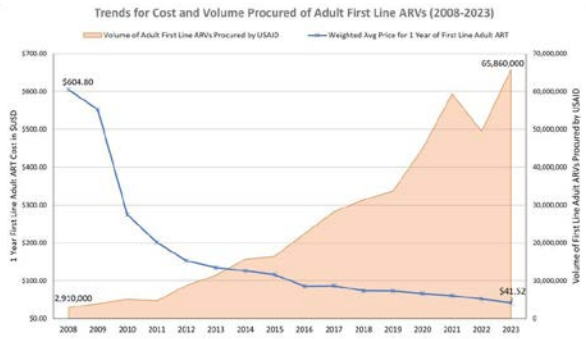
Conclusions: According to the findings, enhancing HIV treatment outcomes requires bolstering the healthcare system, hiring more qualified healthcare professionals, and guaranteeing steady access to ARVs. Future initiatives should concentrate on resolving regional differences in healthcare access.
These advancements could dramatically lower HIV transmission rates and improve the quality of life for those living with the virus.

EP0970

PEPFAR supply chain: from emergency response to sustainable solutions

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Background: The United States Agency for International Development established supply chain programming as an integral component of PEPFAR's efforts, realizing the need for the availability of commodities to expand testing and lab diagnostics, and the treatment of PLHIV with clinically optimized ARVs.
This abstract reflects on the achievements and lessons learned for managing a global disease supply chain.



Description: Although funding has remained flat for HIV programming, USAID's HIV supply chain has implemented innovations to expand HIV commodity supply to cover more clients, while decreasing commodity costs. This is exemplified in the graph below noting how efficiencies gained in procurement, freight transport, commodity data visibility, and collaboration with HIV commodity buyers and manufacturers resulted in the cost for one year of first line Adult ART decreased from $604 in 2008 to $42 in 2023, while ARV procurement increased to over 65 million in 2023.
Additionally, USAID's HIV supply chain shifted procurement to ARV bottles of three and six month tablet counts to support multi-month dispensing, resulting in improvements for client-centered care.
Lessons learned:

- Establishing collaborative relationships between clinical cadre and supply chain to implement mutually beneficial programming, such as multi-month ARV dispensing.
- The utilization of economies of scale through procurement created leverage in HIV commodity markets, resulting in cost competition among suppliers, and expanding supply chain management risk among various stakeholders leading to increased shipping/storage efficiencies.
- Supply chain system improvements are beneficial and transferable to all aspects of a country's health systems from laboratories to data management.

Conclusions/Next steps: Supply chain efficiency gain opportunities are available at the country-level. Moving forward, USAID's HIV supply chain work will focus on PEPFAR countries, intending to build country capabilities to coordinate public and private-sector resources to support their HIV commodity needs, with minimal donor support.

EP0971

Onsite mentorship and training in rural health facilities: a strategy to sustain HIV services for high-risk populations, Mazowe District, Zimbabwe, 2024

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Background: Zimbabwe is successfully driving down HIV incidence, shifting from a generalized epidemic to one concentrated in high-risk populations (HRPs). Efficient resource allocation is crucial to sustain progress, particularly in rural areas where limited resources pose challenges for staff training and supervision.
In response, the Zimbabwe Partnership to Accelerate AIDS Control (ZimPAAC) implemented onsite training and mentorship to support mentorship and training of health facility teams as well as community engagement through community volunteers. Previously, central-level training was then cascaded to sites by the trainees, not always effectively.
Description: From April to September 2024, ZimPAAC coordinated a joint support and program monitoring team comprising district health executives and implementing partners. They mentored facility teams on HIV risk assessment, including Pre-exposure prophylaxis (PrEP) eligibility, and providing HRP-competent services across 29 facilities in Mazowe District.
Monthly onsite training and mentorship sessions targeted all facility staff, with a focus on those historically excluded from national or provincial training due to budget constraints and were scheduled during off-peak hours to minimize service disruption.

Additionally, the team mentored 35 community cadres, including peer HRP members, to generate demand for HIV services and improve treatment adherence in remote rural communities among HRP. We compared program reach from October 2023 to March 2024 (before support) with April to September 2024 (after support).

Lessons learned: Following implementation, HIV testing among HRPs increased by 194%, from 381 to 1,120 HRPs tested (547 referred by peer HRPs from the community). PrEP Initiations rose by 335%, with new initiators increasing from 165 to 718, and PrEP continuation improved by 74% (from 269 to 468 HRPs).

Overall, HRPs in HIV care increased by 8% (from 305 to 329). Tracking of viral loads improved by 17% (from 233 to 272), with viral load suppression increasing by 16% (from 226 to 263).

Conclusions/Next steps: Onsite mentorship and support approach to training team members at healthcare facilities may increase health services uptake amongst HRPs in resource-constrained environments.

Involving community cadres may enhance demand for HIV services and ensure the continuity of HIV care within communities, including high-risk populations and offer potential for sustainability in service provision.

EP0972

Understanding and expanding the role of private health insurance in improving affordable healthcare access for people living with HIV: a case study from India

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Background: As antiretroviral therapy becomes more widely available and people living with HIV (PLHIV) live longer, continued access to an affordable, diversified benefit package of care is critical. The private health insurance (PHI) market could strengthen healthcare financing and deliver comprehensive services to a diverse client base. Since 2023, India's national policies have mandated that PHI schemes cover HIV-related services and be accessible to PLHIV, offering an opportunity to explore PHI market potential.

Methods: This study conducted a literature review, five key informant interviews (KIIs) with PLHIV support organization representatives, four KIIs with PHI representatives, and two focus group discussions with 17 private healthcare providers. We analyzed challenges and opportunities from demand- and supply-side perspectives, identifying opportunities that could help ensure PHI is accessible and affordable for PLHIV.

Results: On the demand-side, PLHIV often faced financial hardship paying out of pocket for chronic illnesses, including HIV. Yet, they did not participate in PHI as they often lacked an understanding of health insurance or feared their PLHIV status being publicly disclosed during enrollment or claims processes. On the supply-side, one year into policy implementation, nine of 30 PHI products were HIV-inclusive. Providers expressed that stable PLHIV clients are low-risk because ART compliance is high; however, PHI companies still perceived PLHIV as high-risk, citing a lack of actuarial data. Companies did not target marketing their products to PLHIV, limiting awareness of these products among PLHIV, and exclusion periods (up to 48 months) before coverage began for care related to pre-existing conditions including HIV affected product attractiveness.

Conclusions: Further incentives may be necessary to stimulate private market participation to realize the full potential of India's PHI policies. Several factors enable PHI accessibility for PLHIV. Raising awareness and improving financial literacy among PLHIV are key to increasing their engagement with PHI.

Providing PHI companies with actuarial data and regulating the exclusion period companies can impose could bolster developing and expanding a range of insurance options for PLHIV. While the market develops, co-financing or premium subsidies may be necessary to ensure the price of PHI does not exceed PLHIV's ability to pay.

EP0973

Peer-led models: a transformative approach to enhancing positive health outcomes in children and adolescents living with HIV/AIDS. lessons learnt from Lusaka District, Zambia

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Background: Whilst significant investment has been made in the fight against the HIV epidemic in Africa, children and adolescents have continued facing unique challenges in accessing testing and treatment services compared to other populations. These challenges include health services that are not tailored to their needs and preferences, with disproportionate access to HIV services, resulting in poor adherence to treatment with lower rates of viral suppression and higher morbidity and mortality.

With funding from the United States Agency for International Development (USAID), the Centre for Infectious Disease Research in Zambia (CIDRZ) with technical support from Project HOPE has been implementing a five-year project aimed at mitigating the impact of HIV and improve the health and wellbeing of Vulnerable Children and Adolescents (VCA).

This program, known as the Empowered Children and Adolescents Program III (USAID ECAP III) demonstrated the effectiveness of peer led models in improving positive health outcomes among children and adolescents living with HIV (C/ALHIV) in Lusaka District.

Description: USAID ECAP III implemented the Community Adolescent Treatment Supporters (CATS), a peer-led differentiated HIV service-delivery model for C/ALHIV. A total of 71 CATS, aged between 18 and 20 years old with an

excellent adherence record were trained and mentored to assist C/ALHIV on a larger scale, guiding them towards resilience and success. The CATS model used three platforms: teen clubs, C/ALHIV support groups and household case management to deliver a series of HIV services such as adherence counseling and addressing mental health related issues.

Lessons learned: Between FY21 and FY24, both Viral Load Coverage (VLC) and Viral Load Suppression (VLS) improved by 5 percentage points, among 2,605 adolescents enrolled on CATS aged between 10 and 17 years old. Specifically, VLS increased from 92% in FY21 to 97% in FY24, while VLC rose from 81.2% to 87.4%. The increase in VLC was statistically significant (p= 0.009). Notable mental health gains were also observed among adolescents.

Conclusions/Next steps: The peer-led support model has demonstrated its effectiveness in helping adolescents adhere to treatment regimens, manage stigma, and develop self-acceptance. Given these positive outcomes, USAID ECAP III plans to scale up this model across all facilities in supported districts.

EP0974

Improving the quality of the centralised chronic medicines dispensing and distribution (CCMDD) programme - dormant list actioning in Thabo Mofutsanyana district in the Free State

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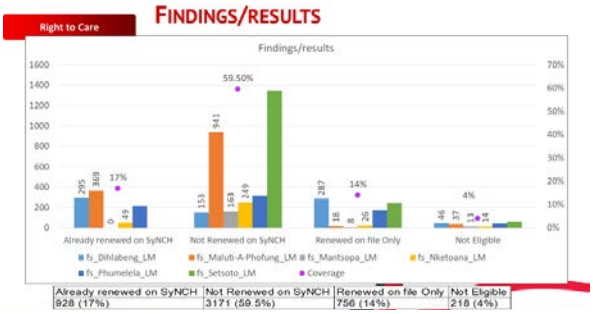
Background: The CCMDD programme provides a differentiated model of care for stable people on chronic treatment. It is necessary to promote facility level audits that look at the magnitude and drivers of patient retention to inform programmatic decisions. A client whose last medicine parcel was dispatched more than 11 weeks ago, and no new prescription has been received by the service provider is considered dormant. This means that this client may have interrupted back to the clinic or at risk of lost to follow up.

The study aimed to establish reasons for CCMDD clients missing their appointments and becoming dormant and interventions implemented in Thabo Mofutsanyane district.

Methods: An operational study design was used where file audits for CCMDD clients were conducted between April and June 2024 using the dormant list report from the service provider in the respective facilities. The dormant list was checked against Synchronised National Communication in Health (SyNCH) and Tier.Net to verify the client status, and the outcome was recorded and submitted to the service provider to update client records.

Results: Of the 5332 files audited, 1745 (34%) were already renewed on SyNCH, 3171 (59%) clients had eligible prescriptions that were not renewed. 756 (24%) clients had prescriptions renewed on facility file only, while 254 (5%) clients were no longer eligible for CCMDD . Only 35 (0.6%) were confirmed lost to follow up.

Interventions implemented included renewing of 1414 prescriptions that were still eligible, 972 clients were booked for script renewal, 14 clients were referred for tracing, 25 deregistered and 395 deactivated from CCMDD.



Conclusions: The audits indicated that majority of prescriptions were not renewed on time. Interventions in facilities should focus on improving prescription renewal and improving SyNCH utilisation to improve retention.

EP0975

Partnership in action: how Ahana Project boosted HIV testing through private sector involvement in PMTCT intervention in 13 states of India. Results from Ahana Project supported by GFATM

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Background: Govt. of India has set a goal to saturation of pregnant women with HIV testing towards achieving EMTCT. While the country has an extensive public health system, there is an estimated 20-25 percent out of 29 million annual pregnancies catered by the private sector. Project AHANA funded by The Global Fund engaged private hospitals to ensure HIV screening of PW and reporting back to national data systems.

Description: Complementing the effort in the public sector towards expansion of HIV testing, a fourfold approach was introduced to engage and integrate private sector effort to country's overall EMTCT programme:

A. Mapping of all private entities,

B. Carrying out service assessment of the facilities,

C. Establish programme engagement with the hospital towards HIV testing and reactive linkages and;

D. Report HIV testing information to national database.

Lessons learned: Altogether A) 21,761 private hospital mapped for potential engagement, B) assessment carried out in 21, 749 hospitals with C) 8, 321 hospitals assessed as ANC service providers, and D) 5, 592 hospitals engaged in the project during the period of Jan, 18 to March, 24.

These engaged hospitals then started reporting back with the HIV testing information as well as aligning for any HIV reactive cases needs confirmatory testing at Govt. ICTC centre and followed up with ART linkages. 16.2% (n=2 million) HIV screening has been carried out in private sector during 2023- 24. Proportion of HIV testing reported from private sector has increased to more than 16%

during the period 2023-24 from 10% during Jan, 18- March, 21. This made sure identification of HIV positive pregnant women and linking them with PMTCT coverage; 180 pregnant women could be identified through Pvt. Sector testing in 2023-24 alone.

Conclusions/Next steps: There is a strong coordination established with the private health facilities contributing towards attaining EMTCT. Over the years Plan India evolved private sector strategy to map, assess and engage more and more private health facilities.

While there is a long way to go and a complete saturation of all cases in the private facilities, the intervention suggests, that EMTCT can be possible only through an integrated public private sector response.

EP0976

Empowering young girls and women to decide over their own bodies and Ensure Universal access to comprehensive adolescent and youth-friendly SRHR information and services

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Background: The EYE Universal SRHR Project, funded by the Norwegian Embassy, aims to address critical gaps in adolescent sexual and reproductive health rights (SRHR) in Uganda. Implemented from 2023 to 2025, this initiative seeks to reduce maternal deaths, unintended teenage pregnancies, and gender-based violence. It also focuses on increasing access to youth-friendly SRHR services and addressing harmful gender norms.

The project targets adolescents aged 10–24, women of reproductive age, and community stakeholders in the Mayuge and Kamuli districts Uganda.

Description: The project adopts a multi-faceted approach to strengthen community and health systems for delivering SRHR services. Key interventions include:

1. **Youth Empowerment:** Formation of youth savings and loan associations, entrepreneurship training, and the establishment of school-based health clubs to foster agency among adolescents.
2. **Capacity Building:** Training healthcare providers in public and private sectors to deliver high-quality youth-friendly services, including long-acting contraceptives.
3. **Community Engagement:** Mobilizing local leaders, youth groups, and community-based trainers to promote demand for SRHR services and combat gender-based violence.
4. **Policy and Advocacy:** Generating evidence to support district-level planning, budgeting, and multi-sectoral coordination while engaging religious and cultural leaders to influence grassroots interventions.

Lessons learned:

- Collaborative efforts between youth, communities, and local governments have fostered ownership and sustainability.
- Youth-led initiatives, including advocacy and accountability movements, have increased awareness and demand for SRHR services.
- Integration of SRHR into broader development programs enhances reach and impact, particularly for underserved populations.
- Addressing harmful social norms requires consistent engagement with community leaders and role models.

Conclusions/Next steps: The EYE Universal SRHR Project underscores the importance of holistic, community-driven approaches to improving SRHR outcomes. Moving forward, scaling successful interventions and integrating them into national health systems will be critical. Strengthening partnerships with local governments and stakeholders will ensure long-term sustainability and resilience in health systems, particularly for adolescents and underserved populations.

EP0977

Antiretroviral therapy adherence prediction: a data-driven approach to personalized care

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Background: Adherence to antiretroviral therapy (ART) is critical for the effective management of AIDS. However, factors influencing adherence vary widely and require reliable predictive models for personalized patient care. This study hypothesized that leveraging machine learning (ML) techniques to analyze clinical and demographic features would enhance the predictive accuracy for ART adherence.

The study aimed to develop, evaluate, and interpret machine learning models to classify adherence, identify key determinants, and provide insights into patient management strategies.

Methods: The study utilized data from an AIDS Clinical Trials Group study, incorporating CD4/CD8 counts, demographics, comorbidities, and opportunistic infection history. Derived features like CD4/CD8 ratios and BMI categories were calculated, with categorical variables encoded via one-hot encoding. Data was split 80-20 into training and testing sets, and five machine learning algorithms (Logistic Regression, Decision Tree, Random Forest, XGBoost, and Neural Networks) were implemented to predict ART adherence. Models were evaluated using accuracy, precision, recall and F1-score.

Results:

Models	Accuracy
Logistic Regression	83%
Decision Tree	84%
Random Forest	87%
Neural Network	82%
XGBoost	87%

The Random Forest model, optimized through hyperparameter tuning, achieved the highest accuracy (93%) on the test set, outperforming Logistic Regression (87%), Decision Tree (85%), XGBoost (91%), and Neural Networks (89%). Key predictors identified included baseline CD4/

CD8 ratios, comorbidity scores, and demographic factors such as age and BMI categories. Feature importance confirmed the significance of these predictors in adherence classification. The models were validated through cross-validation.

Conclusions: This study highlights the potential of machine learning algorithms in improving ART adherence predictions. With it's superior accuracy and interpretable feature importance, the Random Forest model provides a reliable tool for healthcare professionals to identify at-risk patients.

These findings underline the importance of integrating machine learning into clinical decision-making for personalized AIDS care. Future research should explore the model's applicability in real-time and its scalability to other chronic disease management scenarios.

EP0978

Organizational readiness and leadership capacity for integrating hypertension care in HIV services in peri-urban and urban Uganda

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Background: This study evaluated the organizational readiness and leadership capacity for implementing two integrated HIV-hypertension care models and examined predictors of organizational readiness and implementation leadership among HIV healthcare providers (HCP) in Wakiso and Kampala districts of Uganda

Methods: In a stepped wedge cluster randomized trial (NCT05609513) at 16 HIV clinics assigned to either "BASIC" (basic training, supply of hypertension medications and blood pressure devices) or "PLUS" (all components of BASIC plus enhanced hypertension training, performance feedback and differentiated service delivery for hypertension), we purposively enrolled HCP in an implementation climate study. HCPs completed the validated 12-item organization readiness for implementing change (ORIC; score range 12-60) survey at the start of implementation. After six months, we administered a validated 12-item implementation leadership scale (ILS; overall score range 0-48 with 4 sub-scales scored 0-12) to the same HCPs. Using STATA 14.1, we compared scores between study arms using the Mann-Whitney test and assessed the association between demographics and ORIC/ILS scores using linear regression.

Results: Between March 2023 and August 2024, 43 HCP were enrolled of whom 15 (35%) were clinic leads. Median age was 33.5 years (30-41), 24 (56%) were females. The overall median ORIC score was high [58 (55-60)], with participants in PLUS clinics having slightly higher ORIC [58(57-60) vs. 56 (54-58), p<0.062]. The median ILS score was also higher in the PLUS arm compared to BASIC [38 (34-42) vs. 41(38-45), p=0.079].

Knowledgeable [12 (9-12)] and supportive [11(9-12)] domains were scored higher than proactiveness [9(8-10)] or perseverance [10(9-11)]. Clinic staff at PLUS clinics had significantly higher median scores in the supportive domain [11(9-12) vs 9(8-11), p=0.07].

Male clinic leads tended to have lower leadership scores [Coef: -5.6, 95% CI: 2.3-10.9] at PLUS sites. At BASIC sites, Clinic staff in Kampala had ILS scores 10 points higher than those in Wakiso (CI 0.8-18.8).

Conclusions: The findings show strong organization readiness and adequate leadership for implementing integrated care approaches, though both scores tended to be higher in the clinics implementing the enhanced and more human-resource-intensive PLUS intervention.

Organizations planning integrated care should support this favourable implementation climate and consider efforts to sustain.

EP0979

Meaningful youth engagement in the national response to HIV in Nigeria: an analysis of key national HIV policies

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Background: Despite global commitments to meaningful youth engagement (MYE) in the HIV response, youth engagement often remains tokenistic. Nigeria's adoption of the 2021 Political Declaration at the United Nations General Assembly High-Level Meeting on AIDS, presents a timely opportunity to evaluate how three key Nigerian HIV policies incorporate commitments on Meaningful Youth Engagement (MYE).

Methods: We conducted a qualitative document analysis of three key national documents: the National HIV and AIDS Strategic Plan (NSP) 2023-2027, National Strategic Framework (NSF) 2021-2025, and the National Policy on HIV and AIDS (NPHA) 2020. Informed by the Global Consensus Statement on MYE and the advocacy guide on Meaningful Youth Engagement & Youth Leadership, we developed a novel analytical framework tool derived from five key commitments (paragraphs 58, 59, 64, 64a, and 64d in the

2021 Political Declaration) that specifically address youth engagement. Using this framework, we assessed how each policy aligns across the 5 MYE commitment dimensions: stakeholder engagement, accountability mechanisms, GIPA principle implementation, technical and financial support for youth networks, and utilization of youth-generated evidence.

Results: Our analysis revealed variance in the incorporation of MYE commitments across the three policies. The NSP revealed the strongest, albeit partial, incorporation of MYE commitments, showing strong evidence of youth/youth led organizations in the consultation processes for the policy and prioritizing youth leadership.

Nevertheless, it lacked specific implementation mechanisms. The NSF and NPHA showed limited recognition of youth as stakeholders, with no structured frameworks for institutionalized engagement.

Critical gaps were identified across all 5 dimensions in the policies, as young people were predominantly positioned as beneficiaries rather than as active partners and leaders in the HIV response.

Conclusions: Our findings portray systemic gaps in operationalizing MYE in Nigerian HIV policies, underscoring missed opportunities for youth engagement and leadership in the national HIV response. Addressing these gaps will enhance the relevance and efficacy of HIV prevention, treatment, and care, aligning Nigeria's efforts with global commitments to achieve a more inclusive and impactful HIV response.

EP0980

Strengthening HIV health supply chains in Rwanda through data-driven decision making: best practices and lessons learned from 2018-2024

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Background: Rwanda is dedicated to achieving the UNAIDS "95-95-95" targets by 2030, aiming to diagnose 95% of people living with HIV (PLHIV), ensure 95% of diagnosed individuals receive antiretroviral therapy (ART), and achieve viral suppression in 95% of those on ART. This mission requires a reliable supply of HIV-related commodities, such as ARV drugs, test kits, and laboratory supplies. Recognizing the critical role of uninterrupted availability for effective treatment and prevention, Rwanda has strengthened its health supply chains by incorporating data-driven decision-making into procurement, inventory management, and distribution planning.

Description: The HIV program, implemented by the Rwanda Biomedical Center (RBC) in partnership with Rwanda Medical Supply Ltd (RMS), ensured nationwide availability of HIV-related commodities through robust supply chain management from 2018 to 2024. Key activities included annual forecasting and quantification, procurement planning, and inventory monitoring. Tools such as the Integrated Quantification Report, Supply Plan Review Report, and RMS Quality Assurance Annual Report informed decisions. Over six years, interventions ranged from transitioning over 81,000 clients to Dolutegravir-based regimens and training supply chain personnel to introducing laboratory bundling for efficient inventory management and conducting mentorship programs for health facility store managers.

Lessons learned: The program revealed critical insights into supply chain management. Aligning procurement with national treatment guidelines resulted in 100% compliance, ensuring all distributed products met quality standards.

However, challenges such as a forecasting accuracy rate of 58.9% and procurement inefficiencies, with 90% order delivery, highlighted areas for improvement.

Monthly stock reviews and robust inventory controls limited stock-outs and expiries to 2%, surpassing set targets. Nationwide capacity-building efforts strengthened supply chain practices, enabling seamless adaptation to updated treatment protocols.

Conclusions/Next steps: Data-driven decision-making proved instrumental in enhancing the availability and quality of HIV-related commodities in Rwanda, contributing to progress toward the UNAIDS 95-95-95 targets.

Future strategies should prioritize refining forecasting models, improving procurement processes, and maintaining robust inventory controls to ensure consistent access to high-quality HIV prevention, treatment, and care services.

EP0981

Labor landscaping: HIV workforce and training needs - insights from a cross-sectional study in Vietnam

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Background: Despite substantial progress in HIV epidemic control during the last two decades, Vietnam faces challenges ensuring differentiated HIV service availability, coverage, and quality needed to end AIDS by 2030. Several studies conducted from 2005 to 2014 indicated insufficiencies in the quantity and quality of the health workforce; however, no data exist that characterize the current situation.

With the support of the Meeting Targets and Maintaining Epidemic Control project (EpiC), we assessed health workforce and training needs to design a national workforce development plan.

Methods: This cross-sectional study was conducted from June to August 2024. Quantitative data were collected via an online self-administered questionnaire from 17,168 personnel engaging in HIV prevention and control across 63 provinces at provincial, district, and commune levels. Analysis assessed workforce status and training needs.

In-depth interviews with 71 health care leaders and staff in six provinces representing Vietnam's three regions were thematically analyzed.

Results: Most respondents worked at the commune level (64%) versus district (24%) and provincial (12%) levels. However, 97.8% of commune staff, 75.5% of district staff, and 47.3% of provincial HIV-dedicated staff had cross-functional roles, limiting their capacity for specialized tasks and requiring them to balance HIV with other duties.

At all levels, most staff (81.8%) worked in HIV management, care, and treatment, with fewer working in prevention, communication, testing, counseling, or other areas.

Training opportunities were disproportionately available to provincial and district staff (18.4%) versus commune staff (6.7%) ($p<0.0001$). Respondents identified several learning limitations, including overcrowded and combined sessions and insufficient equipment.

Additional barriers included unclear training regulations, insufficient qualified trainers, varying professional requirements, inadequate trainer remuneration, and financial constraints.

Respondents expressed the need for annual offline training in specialized HIV knowledge, communication, counseling, and updates on new methods.

Conclusions: The findings highlight critical central and provincial roles in developing mechanisms for training and the need to revise training frameworks and guidance, enhance provincial trainer capacity, and provide comprehensive training for Vietnam's HIV workforce.

Tailored training programs for different levels of the workforce are essential to foster a more effective, responsive system that addresses HIV and other health priorities.

EP0982

From beneficiaries to partners: integrating youth power into local health systems in Iloilo City, Philippines through project HIV & AIDS Youth Initiative (HAYI)

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Background: The Philippines faces a growing HIV epidemic, with nearly half of new cases in 2023 involving individuals aged 15-24 years. In Iloilo City, 34% of newly diagnosed cases fall within this age group. To address this, Team Dugong Bughaw, Inc. launched Project HIV and AIDS Youth Initiative (HAYI), utilizing the peer-to-peer strategy in HIV education, stigma reduction, HIV testing, and referral in Higher Education Institutions (HEIs) and Local Government Units (LGUs) to improve health systems by bridging the gap between service providers and the young key population.

Description: In Iloilo City, Project HAYI targeted youth in HEIs, focusing on HIV awareness and prevention through boot camps, peer-to-peer education, the establishment of school-based reproductive health corners ("The Nook"), and partnerships with HEIs and LGUs. The project was bolstered by public-private partnerships, referral networks, and the piloting of Community-Led Monitoring (CLM).

Lessons learned: Project HAYI achieved significant outcomes, including:

- Educating 11,524 students on HIV (significant increase in post-test scores $p<0.001$).
- Dispensing 9,796 condoms, 1,436 lubricants, and testing 909 individuals for HIV.
- Signing Memoranda of Understanding (MOUs) with five HEIs to support HIV awareness programs, establish "The Nook," and create school-based organizations
- Securing a ₱5.5-million commitment from Iloilo City government to boost HIV investments.
- Establishing referral networks with five treatment hubs and piloting CLM in two health institutions.

Challenges included resistance from HEIs due to conservative views, bureaucracy, and the transient nature of student populations. Community mobilization efforts faced risks of political co-optation and short-term partnerships.

Lessons learned emphasize the importance of baseline data assessments, realistic goals, inclusive targeting, strategic program integration, and robust monitoring and evaluation for sustainable and impactful HIV programs.

Conclusions/Next steps: These findings underscore the capacity of young people to significantly advance HIV awareness, prevention, and care in resource-limited settings by integrating youth-focused approaches into local health systems.

Integrating HIV education into academic curricula, normalizing HIV testing among young people, institutionalizing CLM at the national level, and advocating for an HIV-dedicated LGU budget beyond Gender and Development (GAD) funds will ensure a sustained HIV response in Iloilo City.

EP0983

Partnerships with purpose: expanding economic opportunities for Rwandan AGYW in the DREAMS program

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Background: Adolescent girls and young women (AGYW) in Rwanda face a heightened risk of HIV infection, with an estimated prevalence of 3.7%. Among YW aged 20–24, the risk of new acquisition is five times higher than that of their male counterparts. Economic inequality is a significant driver of HIV vulnerability in this population. Financial independence and access to economic opportunities can mitigate risk-factors, such as dependence on partners or engaging in transactional sex to meet basic needs.

Consequently, economic strengthening has become a critical component of a multi-faceted HIV combination prevention strategy for AGYW.

Description: Comprehensive economic strengthening is a cornerstone intervention within the PEPFAR DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) program in Rwanda. Since its inception in Rwanda in 2018, the program has reached 163,236 AGYW with this intervention. Participants frequently cite economic strengthening as a key motivator for their involvement and completion of the program.

However, implementers highlight the high cost of delivering well-designed economic strengthening interventions as a barrier to broader reach and sustainability.

To address these challenges, USAID Rwanda has developed innovative partnership strategies to

1. Expand the reach of economic strengthening activities within the comprehensive HIV prevention program and;
2. Support long-term sustainability.

Key partnerships have been established with organizations such as the MasterCard Foundation, BRAC International, the Bank of Kigali Foundation, and various local private sector partners.

Lessons learned: The partnership approach has generated several valuable insights that enhance the implementation and sustainability of economic strengthening interventions within the DREAMS program. Key findings highlight the significance of aligning objectives among stakeholders and the necessity for established safeguarding measures.

Additionally, the benefits of conducting landscape and stakeholder analyses, effective methods for engaging the private sector, and strategies for monitoring and evaluating participant progress across various partners are also emphasized.

Conclusions/Next steps: Rwanda's experience provides a practical framework for engaging diverse partners and highlights the role partnerships can play in ensuring the sustainability of economic strengthening interventions.

These learnings offer significant implications for DREAMS and other multi-component HIV prevention programs, enabling them expand reach and enhance the sustainability of this critical component for reducing HIV vulnerability among AGYW.

EP0984

Augmenting access to and utilization of HIV services in the year 2022 through Community Led Monitoring (CLM): a pilot initiative in three northeast states of India

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Background: Community-led monitoring (CLM) is critical to understanding availability, access, utilization of HIV services, and barriers associated with service delivery. A pilot program of beneficiary interviews through community representatives was implemented during June-Dec 2022 to assess the service user experience in 145 public health facilities of 15 districts of Manipur, Mizoram, and Nagaland states, India.

Description: State Community Resource Groups were established, and State/District-level consultations and sensitization workshops were conducted with key community members and stakeholders. To interview the beneficiaries accessing HIV prevention, testing and treatment services at selected facilities, community consultants (n=56) were selected from among service providers, community-based organizations, Community champions and community networks based on a landscape analysis.

Responses of 1,399 beneficiary interviews were analyzed to assess their experience of local facilities in terms of availability, accessibility, appropriateness, responsiveness to client reasonable expectations, and satisfaction, and scored in each category.

Based on the average performance of their facilities, districts were categorized ordinally as: Red ("Alert"): 0 20%, Orange ("Work in progress"): 21 40%, Yellow ("Getting there"): 41 60%, Blue ("Above average"): 61 80%, and Green ("5-star facility"): above 80%.

Lessons learned: Of 15 districts, 11 (73%) were graded as "5-star facilities" for availability, followed by 9 (60%) for overall satisfaction, 8 (53%) for accessibility and appropriateness, and 7 (46%) for responsiveness". Satisfaction with HIV services in all districts scored "Above average" or "5-star facility". Major gaps were in accessibility of HIV services and responsiveness of service providers. The district- and facility-specific score cards were further shared with district and facility managers to address the identified gaps. Provisioning of commodities, feasibility assessment, sensitization of key stakeholders, and regular trainings ensured improved HIV service delivery.

Conclusions/Next steps: This exercise provided valuable evidence on the effectiveness of HIV service delivery from the beneficiaries' perspectives and led to appropriate actions to improve the HIV services. This model was an effective system for feedback from communities, to

recommend improvements and acknowledge the good practices and has been scaled up across the country. Periodic implementation of CLM may be considered for evidence-informed and community-friendly solutions to improve HIV services.

EP0985

Enhancing HIV data and service quality assessments through mobile technology in Kenya (2021 - 2024)

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Background: Effective data management enhances service delivery and health outcomes. Kenya's National AIDS and STI Control Programme (NASCOP) developed a mobile application for Android and iOS to improve data and service quality assessments (DSQAs) across the healthcare system to support the national HIV program. The application is now widely adopted by the Ministry of Health (MOH), facilitating quality assessments at national, county, sub-county, and facility levels. Currently, over 2,000 users actively use the tool.
Description: This application supports routine and national assessments with real-time data collection, validation, and reporting, enabling longitudinal tracking and ensuring data accuracy, consistency, and reliability. Key features include team management, guided questionnaires, and integration with national data systems like the Kenya Health Information System, National Data Warehouse, and Data for Accountability, Transparency and Impact (DATIM), allowing cross-system data comparisons. Built-in dashboards enable immediate visualization for timely decisions, and automated facility reports serve as reference documents. Its customizable design allows adaptation for specific program needs. An automated action planning module promotes accountability, with teams able to record improvement areas, assign responsibility, and set deadlines for follow-up.
Lessons learned: Implementation has improved data accuracy and timeliness, enabling health facilities to identify and correct data queries, reduce discrepancies, and ensure accurate representation of service delivery indicators. Linkage to the National HIV dashboard provides visibility into conducted assessments. NASCOP and MOH routinely support ongoing training and technical assistance, promoting adoption and reliable performance, showcasing Kenya's commitment to digital health solutions. The application has standardized and reduced the time taken to conduct DSQAs, saving the program approximately $30,000 that would have otherwise been spent on vendors to conduct national-level DSQAs.
The application's relevance was evaluated based on stakeholder feedback regarding adoption, usefulness, ease of use, alignment with reporting needs, and key benefits. About 70% of respondents reported using the application, with frequent users praising its ability to deliver reliable data and support strategic decisions.
Conclusions/Next steps: Kenya's adoption of this solution offers a scalable model for other low- and middle-income countries, showcasing how digital health innovations improve data quality and service delivery while aligning with global best practices and sustainable healthcare goals.

EP0986

Ensuring access to essential HIV medicines, strengthening workforce capacity, and driving innovation

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Background: The Ecumenical Pharmaceutical Network (EPN) launched an ongoing project (2022–2028) to improve pharmaceutical services in rural, underserved communities across five African countries: Cameroon, Lesotho, Zambia, Tanzania, and Kenya. The lack of skills among non-trained staff in commodity control has compromised the consistent availability of essential medicines, particularly in faith-based health centres located in regions with poor infrastructure, remote locations, and conflict zones. Targeting 100 church-managed primary care centres operating outside government systems, the project addresses gaps in specialized staffing and commodity access.
The initiative aims to enhance pharmaceutical systems by improving commodity management, particularly for HIV treatments such as antiretrovirals (ARVs) and prophylaxis for opportunistic infections.
Description: The program targeted faith-based centres with limited government support. It trained non-specialist healthcare workers in inventory management, stock monitoring, and procurement. A medicines availability tool was introduced to:
1.Track stock levels.
2.Guide restocking.
3.Address shortages proactively.
Facility committees used the tool to make data-driven budget and resource allocation decisions. Key metrics tracked included current stock, safety stock, average monthly consumption, lead time, maximum stock, procurement periods, stock on order, and supply sources. Priority was given to first-line ARVs (ABC/3TC), Nevirapine, Cotrimoxazole (CTX), and Hydrochlorothiazide (HCTZ) for aging HIV patients in rural areas.
Lessons learned:
1. Improved Medicine Availability: Availability of 14 essential medicines, including Abacavir and Lamivudine, improved in 6 out of 20 rural facilities in Cameroon compared to 2022.
2. Proactive Stock Monitoring: The tool reduced stock-outs by enabling staff to resolve supply challenges.
3. Capacity Building: Training improved pharmaceutical system management and responsiveness to community needs.

4. System Strengthening: Continuous monitoring enhanced supply chain resilience and ensured timely medicine availability.

Conclusions/Next steps: This ongoing project highlights the importance of leveraging innovation to optimize processes and adapt practices to the unique challenges of rural and hard-to-reach areas. Tailored tools and training ensure the consistent supply of essential commodities, strengthening the management of HIV and related ailments. As the initiative progresses from 2022 to 2028, continued monitoring will provide insights to sustain and scale these improvements in underserved communities.

EP0987

Leveraging routine health facility data for HIV research in refugee settlements: a focus on data quality and insights beyond randomized trials

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Background: Routine health information systems used in health facilities generate data to track health service delivery including HIV. While randomized clinical trials are considered the gold standard for evaluating causal effects due to their controlled environments, routine facility data often lack such control and are underutilized due to quality challenges. Electronic health records (EHR) offer promise but are rarely used in real-time, often serving mainly for end-of-month reporting. We explored the quality of routine facility data in addressing clinical trial research outcomes.

Methods: We utilized data from Data-Quality-Assessment (DQA) field visits of a cluster randomized clinical trial aimed at evaluating the effect of community ART delivery models on viral suppression among persons newly diagnosed HIV at 12 health facilities across five refugee settlements in Uganda (R01MH130216). Trained research assistants extracted data from facility registers or EHR and entered into a mobile-Research Electronic Data Capture (REDCap) database.

Monthly DQA visits entailed cross-validating REDCap with register data and documenting challenges to data quality. Notes from DQA visits were reviewed to assess data accuracy (REDCap versus register), missingness and timeliness (REDCap time stamp versus register dates) of the clinical trial outcomes of viral load assessment and community model placement.

Results: From January-15, 2024, we enrolled 662 clients (314-Intervention and 348-Control). We reviewed 662 records; 399 for Viral-Load assesments and 203 for community placements.

Accuracy: REDCap and register data were generally consistent. Discrepancies existed in the viral load appointment register, primarily due to differences in how the timing for Viral-Load assessment was computed, hence mismatches. Facilities that utilized the Electronic Monitoring Record (EMR) had more accurate records and viral load tracking.

Missingness: This was common in the community group registers; most missed entries were: group-codes, date of group formulation and number of clients per group.

Timeliness: In early study stages, mismatches between REDCap time stamp data and dates recorded in registers affected study inclusion criteria.

Conclusions: Routine health facility data quality was generally accurate, especially when EHR were utilized; however, missingness and delays in entry existed. Implementing electronic systems and staff training may address data quality issues and enhance their utility for robust clinical research.

EP0988

Expanding HIV service in public hospitals through community-involved strategies to enhance access, case finding, and same-day treatment for key populations

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Background: HIV remains a significant problem in Thailand, with an estimated 580,000 people living with HIV in 2023. HIV testing and treatment are easily accessible in public hospitals, but key populations still face social and economic barriers which hinder their access to essential healthcare services. To address those challenges, we developed a community-led same day antiretroviral therapy (CL-SDART) program.

Description: Ratchaphiphat Hospital (RPP), a tertiary care hospital in Bangkok, collaborated with Rainbow Sky Association of Thailand (RSAT) to implemented CL-SDART. Trained lay providers from key populations provide HIV screening, testing, and SDART initiation at RSAT's clinic, under supervision of a medical team from RPP. Physicians from RPP prescribed ART for all newly diagnosed clients within one day. We compared HIV-related data from January 2023 – October 2024 between CL-SDART clients and clients from regular HIV services at RPP.

Lessons learned: Through regular services at RPP, 226 clients with a median age of 33 (interquartile range, IQR 25-43) years were newly diagnosed with HIV during the study period. One-third (33.3%) were heterosexual men, 33.3% were cisgender women, and 33.3% men who have sex with men. Median (IQR) CD4 at diagnosis was 202.0 (44.5-387.0) cells/mm^3, and 36.3% (82/226) of clients had CD4 <100 cells/mm^3.

Furthermore, cryptococcal antigen and syphilis positivity were 6/226 (2.7%) and 40/226 (17.7%), respectively. Through CL-SDART, 288 clients with a median age of 27 (IQR 23-31) years were newly diagnosed with HIV, of whom 83.7% identified as men who have sex with men. Median CD4 count was 414.0 (299.8-554.8) cells/mm^3. No CD4 <100 cells/mm^3 or cryptococcal antigen positivity were observed. Syphilis positivity was 117/288 (40.6%).

CL-SDART has been particularly effective in engaging young people and key populations, especially men who have sex with men.

Additionally, HIV testing in a community-led clinic facilitated earlier detection of HIV with higher initial CD4 counts (p<0.001), enabling prompt interventions which will contribute to improved patient outcomes.

Conclusions/Next steps: These findings emphasize the effectiveness of CL-SDART in improving accessibility for key populations and facilitating early HIV diagnosis.

Expanding this approach across multiple sectors could help address barriers to accessing HIV-related services and improve service delivery.

EP0989

Factors affecting the provision of client-centered HIV care in central Uganda: a qualitative study with HIV care providers, staff, and community partners

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Background: Client-centered HIV care is a priority of HIV organizations globally (care that meets the needs of diverse individuals through convenience, welcoming environments, supportive services, and community engagement). In sub-Saharan Africa, the provision of client-centered care is uniquely challenging and understudied.

This study sought to explore factors affecting the provision of client-centered care in HIV clinics in central Uganda.

Methods: In 2023, we conducted a qualitative study with health workers and community partners in six health facilities across three districts in Uganda to shed light on factors affecting the provision of client-centered care. We conducted 7 focus group discussions (n=53 health workers, lay health workers, staff), and 12 key-informant interviews with community partners (e.g., district and HIV program leaders). We used thematic analysis and the social ecological model to interpret our results.

Results: At the individual-level, providers were aware of client centered care's principles but acknowledged that its perceived importance and implementation was low. At the interpersonal-level, health and lay workers expressed bias towards groups of clients (e.g., sex workers, MSM, young women) that interfered with their provision of client-centered care. Other barriers to being client-centered expressed by providers included a lack of empathy towards clients with a detectable viral load, an unwillingness or inability to self-regulate stigma towards clients, and a desire to keep personal boundaries with clients.

At the health system-level, while health leaders discussed client-centered care as a priority, clinic-level barriers limited implementation, including a lack of private space for counseling, limited time per client due to heavy client load, work-load related stress affecting their interactions with clients, and a "one-size-fits-all" approach to group rather than individualized counseling. Participants agreed about the need for more training and institutional support to strengthen the implementation of client-centered care.

Conclusions: While aware of the tenets of client-centered care, HIV care providers experience multilevel barriers to its implementation. Health worker training is needed that builds knowledge, motivation, and skills to provide client-centered HIV care, and addresses stigma to reduce provider bias. However, such approaches need to consider structural challenges in health settings such as Uganda that impede the provision of client-centered care.

EP0990

Community-Based pharmacovigilance: a novel approach to improve adverse drug reactions documentation and reporting for better HIV treatment outcomes in Zambia

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Background: Adverse Drug Reactions (ADRs) are known to affect clients' adherence and continuity in treatment. Pharmacovigilance in Zambia has traditionally focused on clinical settings, with limited community involvement. To address this gap, Howard University implemented innovative strategies to enhance ADRs reporting from the community as an important resource in contributing to client safety and improved treatment outcomes.

The primary objectives of this initiative are to enhance and optimise community participation in ADRs reporting, develop integrated pharmacovigilance systems, and improve treatment outcomes.

Methods: Three key interventions were employed to achieve these goals from 2020 to 2024.

- **Community Reporting through Monthly Check-in Calls:** We established regular check-in calls to facilitate ADRs reporting and foster collaboration between healthcare professionals and community health workers.

- **Sensitization via Expert client Groups:** Expert clients, using peer-to-peer communication, provided essential education on ADRs and reporting procedures, particularly during the COVID-19 pandemic.
- **Integration with Neighbourhood Health Committees (NHCs):** Educational sessions were organized with NHCs to promote ADRs reporting and safe medication use within the community.

Results: The initiative led to several positive outcomes:

- Community-based ADR reporting now accounts for 20% of all ADRs reported.
- A reduction in ADRs occurrence reporting time from six months to one month, enabling timely interventions and improving health outcomes.
- Sustained 99% Viral load suppression indicates an absence of adherence issues particularly due to ADRs.
- A high treatment continuity rate of 98% suggests that ADRs did not lead to significant client dropout
- Only < 0,5% missed doses associated with ADRs.

Conclusions: The interventions implemented by Howard University demonstrate effective strategies for enhancing client safety through community-based pharmacovigilance. By engaging local communities in ADRs reporting and promoting a proactive reporting culture, the project has improved pharmacovigilance practices and client care. This model offers valuable lessons for other regions, emphasizing the importance of community involvement in safeguarding public health and ensuring medication safety.

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EP0991

Advancing youth-friendly health services through systematic strengthening

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Background: The Zvandiri model, implemented through the Community Health and Wellbeing Programme (CHWP), represents a public-private partnership between Anglo American (AA) and Right to Care (RTC). Targeting peri-mining communities in Limpopo, North West, and the Northern Cape provinces of South Africa, a novel approach was introduced during the South African implementation. Intensive health system strengthening efforts were undertaken before rolling out the peer-provider support component to ensure facilities were equipped to deliver adolescent and youth-friendly services (AYFS) and ready to integrate peer-providers.

Description: From 2023 to 2024, health system gaps in AYFS delivery were addressed to create an enabling environment for the Zvandiri model's peer-provider implementation.

This preparatory phase focused on capacity building for healthcare providers, strengthening clinic governance with youth representation, and improving compliance with AYFS standards in the Ideal Health Facility Realization and Maintenance (IHFRM) framework.

Lessons learned: The preparatory health system strengthening approach significantly improved facility readiness for AYFS delivery. Compliance with AYFS standards improved from 49% in 2022 to 91% in 2024. Key achievements included the integration of AYFS training into staff development plans, which increased from 31% in 2022 to 80% in 2024, and the inclusion of youth representation in clinic committees, which rose from 26% in 2022 to 69% in 2024. These advancements were critical in supporting the successful rollout of the peer-provider model.

The introduction of the ART child viral load suppression (VL) element into the IHFRM framework in 2023 further aligned clinical outcomes with facility standards. By 2024, the number of supported facilities achieving the South African Annual Performance Plan (APP) target of 45% viral load suppression in children below 50 copies/mL rose to 71%.

However, the APP target remains significantly below the UNAIDS 2030 goal of 95% viral load suppression, further highlighting the need for continued improvement.

Conclusions/Next steps: Targeted system strengthening before implementing the peer-provider component in the Zvandiri model has enhanced uptake and ensured successful outcomes.

This highlights the vital role of system strengthening in enabling novel interventions and underscores the importance of expanding youth-focused initiatives, aligning with global frameworks, and improving clinical monitoring to bridge healthcare gaps and sustain long-term outcomes.

EP0992

Improving healthcare experiences: evaluating the perception of health care workers in some Nigerian States

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Background: Client satisfaction is a critical indicator of healthcare quality and adherence to antiretroviral therapy (ART), essential for achieving the third "95" UNAIDS target. However, client satisfaction across the HIV care continuum in Nigeria remains underexplored. The Institute of Human Virology Nigeria (IHVN) conducted a pilot Client satisfaction survey using a mobile application and web platform to address this gap.
We aim to evaluate insights into healthcare workers' perspectives on the intervention.
Methods: A cross-sectional descriptive study was conducted in 40 high-volume healthcare facilities in Kwara, Gombe, Anambra, and Ebonyi states in Nigeria to evaluate healthcare workers (HCWs) experience following a pilot mobile and web-based Client satisfaction survey. This survey was conducted in January 2025 using a google form questionnaire. Binary questions, Likert-scale items, and open-ended prompts were deployed to HCWs across all participating health facilities. Quantitative data were analyzed using descriptive statistics with Microsoft Excel, while qualitative responses were evaluated through thematic content analysis.
Results: A total of 41 healthcare workers participated in the survey. Of these, 41.2% rated the Clientshot tool as effective in improving healthcare service delivery, 32.1% as very effective, and 14.5% as neutral. Additionally, 63.2% reported significant motivation improvements due to client feedback, while 24.4% noted slight improvements. The majority of healthcare workers agreed that the feedback accurately captured Clients' experiences, leading to notable service improvements, including reduced waiting times through workflow adjustments and improved healthcare worker attitudes. Reported challenges included technological barriers such as the application lag, poor network connectivity, low client literacy levels, and client impatience during survey completion.
Conclusions: This study highlights the potential of digital tools like Clientshot to enhance healthcare services, improving worker attitudes, wait times, and service flow. Addressing technological barriers, device access, and client engagement is essential for scaling impact and strengthening HIV care to advance toward achieving the third "95" UNAIDS target

EP0993

Adapting person-centred care models to public health system realities: lessons from the design and piloting of a person-centred care model in eight rural and peri-urban public clinics in South Africa

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Background: Person-centred care (PCC) models can improve client outcomes but often face barriers to implementation within the public health system, including an unfavourable enabling environment and limited provider engagement. In partnership with eight public clinics in KwaZulu-Natal, South Africa, this study aimed to design an acceptable, feasible, scalable PCC model that enhances provider motivation and quality of care. (This abstract focuses on lessons from the design process, rather than pilot results.)
Description: Through observations in the pilot facilities and interviews with 35 nurses, we identified factors affecting provider attitudes and behavior, including stress management, communication skills, and team dynamics. These insights informed a series of co-creation workshops focused on designing a PCC model tailored to their needs. The model was piloted over 18 months and refined through structured feedback mechanisms, including surveys, interviews, and focus group discussions.
Providers prioritised topics of empathy, communication, mental health/stress management, teamwork, and supportive supervision as enablers of person-centred care. They preferred training to be delivered via brief, on-the-job sessions open to the full team, rather than full-day, off-site, cascade-style trainings, and focused on practical knowledge and skills. They further suggested that training be accompanied by supportive (rather than audit-based) mentoring and coaching, providing the opportunity to practice and receive constructive feedback on new knowledge and skills. During piloting, providers then proposed various iterations to the model, primarily for feasibility.
Lessons learned: Inclusion of providers in the design, testing, and adaptation of the model contributed to high levels of acceptability and feasibility, with most providers from pilot facilities participating consistently in training and mentoring. Provider feedback on the content and delivery of the model, collected via surveys, interviews and focus group discussions, was also overwhelmingly positive.
Conclusions/Next steps: Employing a participatory approach to the design of PCC models and tailoring them to the specific needs and realities of providers within the public health system may increase feasibility and accept-

ability, contributing to improved provider engagement and motivation. The study highlights the importance of context-specific adaptations and provider engagement in the successful implementation of PCC in resource-constrained settings, offering valuable insights for scaling similar models in other public health systems.

EP0994

Barriers and facilitators in reporting adverse drug reactions among healthcare workers and people living with HIV on antiretroviral therapy in Moshi

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Background: HIV/AIDS is still a major cause of death globally. At the end of 2023, about 39.9 million people were living with HIV (PLHIV) and more than two-thirds of them live in Sub-Saharan Africa. Antiretroviral Therapy (ART) as a treatment has proven to be enough and efficient in the improvement of the health of PLHIV and has reduced mortality, morbidity and onward transmission of HIV. With the increase in ART use is an increase in Adverse drug Reactions which can affect the quality of life of PLHIV and can lead to them stopping their medication.
Although these ADRs and effects caused by ADRs are common and have serious consequences for both the patients and the health system, there is still a big problem with reporting the ADRs
Methods: A cross-sectional study using qualitative methods was used. In-depth interviews (IDIs) and focus group discussions (FGD) were conducted among HCW and PLHIV. The study was conducted in two phases:
Phase 1 involved in-depth interviews with healthcare workers and PLWH, and Phase 2 involved focus group discussions with PLHIV. The data was analyzed using thematic analysis.
Results: The study identified different barriers faced by both healthcare workers and PLHIV on ART. These barriers included limited knowledge of ADR and ADR reporting, inadequate skills for reporting ADRs, lack of feedback from regulatory authorities, not knowing what to report, complicated forms and unavailability of ADR reporting forms. The PLHIV faced barriers like not knowing when to report, not being sure if it is the medication causing the ADR, lack of time, lack fare to come to the clinic and stigma. Facilitators mentioned include training healthcare workers, ensuring timely feedback, and increasing awareness about ADRs and ADR reporting practices.
Conclusions: The study highlighted barriers and facilitators for reporting ADRs among both healthcare workers and people living with HIV on ART. Addressing these barriers will improve healthcare services and the pharmacovigilance (PV) system in Tanzania.

EP0995

Improving HIV outcomes: measuring verification testing, confidentiality, and key population engagement in Zimbabwe, 2024

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Background: In Zimbabwe, timely HIV verification testing and maintaining confidentiality in healthcare facilities are ongoing challenges. Additionally, involving key population (KP) community members in designing and delivering health services is crucial for better health outcomes.
This evaluation assessed these aspects at selected facilities across Zimbabwe, focusing on adherence to national HIV guidelines, enhancing confidentiality at service points, and engaging KP members in health service planning and implementation. Addressing these issues is vital for improving care quality and health outcomes for KPs.
Description: This cross-sectional evaluation was conducted at 148 purposively sampled healthcare facilities across Zimbabwe. Data were gathered using structured questionnaires and facility record reviews, with a focus on the timeline of HIV verification testing, privacy in service delivery points, and community engagement in health services. Quantitative analysis determined percentages of HIV verification testing, privacy design, and KP community involvement, alongside the use of disaggregated data for training and quality improvement (QI). Descriptive statistics were computed using Excel templates for analysis.
Lessons learned: The evaluation revealed several key findings. Firstly, 98.21% (145 out of 148) of the facilities adhered to HIV verification testing protocols, with the majority of tests being conducted on the same day as the initial positive results.
Secondly, privacy (both auditory and visual) and confidentiality were ensured at 89.36% (132) of the service delivery points across the facilities. Additionally, community engagement was significant, with 52.48% (78) of the facilities actively involving KP members in the design and provision of health services. Lastly, 53.9% (80) of the facilities were proactive in collecting, analyzing, and utilizing disaggregated data for training and quality improvement.
These insights highlight the importance of adherence to protocols, ensuring privacy, engaging the community, and leveraging data for continuous improvement in healthcare delivery.
Conclusions/Next steps: The evaluation revealed high adherence to HIV verification protocols and substantial efforts to ensure privacy and confidentiality in health service delivery. Engaging KP community members proved vital for effective interventions.
Enhancing community involvement and utilizing data-driven strategies are recommended to further improve healthcare outcomes for KPs. Ongoing focus on privacy, community participation, and data use is essential for a comprehensive and effective health service system in Zimbabwe.

EP0996

Exploration of scientific evidence and community perspectives on the role of artificial intelligence in Ending AIDS as a public health threat

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Background: Artificial Intelligence (AI) is transforming healthcare, offering new opportunities to enhance HIV prevention, treatment, and care. To maximize its potential in the HIV response, ethical considerations, equity, and community engagement must be prioritized.
This study aims to identify evidence gaps, explore community perspectives, and recommend pathways for applying AI in Ending AIDS as a public health threat.
Methods: This global study is conducted in two phases:
1. A scoping review focusing on the application of generative AI and machine learning in HIV prevention, treatment, response planning and financing, and;
2. Consultations with global networks of PLHIV and key populations on AI opportunities and risks, particularly concerning human rights, equity, and community leadership.
Results: In July-September 2024, a scoping review analyzed 1,439 records, with 1,222 included for full-text review on AI applications in HIV prevention, treatment, and health system strengthening. Of the 1,222 records screened, 182 were selected for analysis. The majority (85%) of studies were original research, more than 92% utilized machine learning and more than half focused on HIV treatment.
The review highlighted AI application in health financing including governance, predicting costs, detecting fraud, optimization financial pooling, improving efficiency and streamlining strategic purchasing. It revealed a paucity of research on human rights issues, equity concerns, ethical, legal, and regulatory issues, data governance, and accountability mechanisms, and community and civil society input.
While the results of consultations are due in February 2025, stakeholder interviews show community-led HIV service providers are hopeful AI will increase access to counseling, including on PrEP and harm reduction, and in fundraising. However, concerns exist about poor access to advanced technology among smaller networks, and confidentiality issues for criminalized key populations.
Conclusions: AI offers transformative potential to revolutionize HIV prevention, treatment, and sustainability of financing significantly advancing progress towards ending AIDS and achieving the Sustainable Development Goals at sub-national, national, and global levels.
However, this optimism is tempered by caution. International, regional, and country stakeholders, including the donors, should convene regularly to discuss the ways of mitigating risks of AI use in clinical and community settings, and the role of AI in planning and implementing sustainable national HIV responses.

EP0997

Exploring healthcare experiences of transgender people in the Jabula Uzibone Study, South Africa

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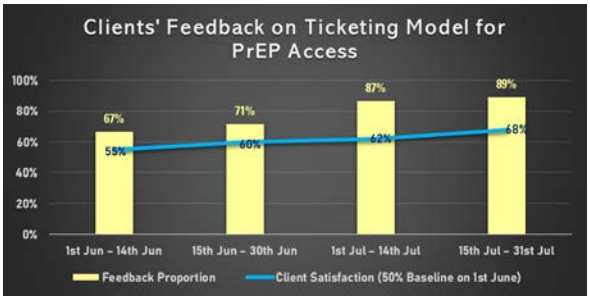
Background: The World Health Organisation (WHO) promotes transgender-differentiated service delivery (TG-DSD) model to overcome barriers to HIV service engagement among transgender people (TGP). For TGP an essential element of DSD includes gender affirming care which is non-stigmatising, and free from discrimination. The Jabula Uzibone (JU) Study, launched in November 2023, assesses the cost and effectiveness of TG-DSD on HIV outcomes.
In this paper we describe the characteristics of TGP in our study at baseline and explore whether there are differences in healthcare experiences among those seeking care at TG-DSD clinics versus standard service delivery (SSD) clinics.
Methods: This observational, mixed-method, prospective implementation study compares models of care at four SSD facilities and four TG-DSD sites using standardised observation checklists, in-depth, and key informant interviews. We ask participants about experiences of gender affirmation as well as experiences of stigma through a structured, interviewer-administered quantitative survey. We aimed to recruit 300 participants from TG-DSD sites and 300 from SSD sites (200/arm on antiretrovirals and 100/arm without HIV) for 12 months of follow-up.
Results: We enrolled 422 TGP with HIV (217 DSD and 205 SSD) and 248 TGP without HIV (128 DSD and 120 SSD); 15% (102/670) gender non-conforming, 15% (91/670) TG men, and 70% (477/670) TG women. The average age was 29 years. SSD participants at baseline were 46% more likely to experience stigma compared to their TG-DSD counterparts (aOR=1.46, 95%CI: 1.06,2.01).
SSD participants were more likely to encounter a healthcare provider who is unwilling to provide care for them (aOR=1.55, 95%CI: 1.09,2.21) and to report that health care workers are unable to provide the same quality care to TGP as they do other people (aOR=1.46, 95%CI: 1.00,1.91) compared to their TG-DSD counterparts.
Conclusions: TGP from DSD facilities were less likely to report experiences of facility-based enacted stigma at baseline, compared to the TGP from SSD facilities. Our study highlights the importance of provider training in tailored transgender health care to provide gender-affirming healthcare service.
Results from the JU study will provide further evidence of the effectiveness of TG-DSD models in sub-Saharan Africa, and the role of stigma and discrimination in HIV outcomes among TGP.

EP0998

Promoting positive experience with pre-exposure prophylaxis access through a ticketing model - a quality improvement initiative

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Background: Pre-exposure prophylaxis (PrEP) stigma continues to be a major barrier to its implementation and use. One contributing factor to stigma at service delivery points is lack of privacy. To address this, a PrEP work improvement team (WIT) in a facility in western Kenya implemented a ticketing model to enhance privacy and reduce stigma due to name-calling, with the aim of improving client experiences.
Description: Between June 1 and July 31 2024, a facility WIT team comprising all cadres introduced a quality improvement approach that utilised improvised tickets from cut drug cartons numbered in pairs. The triage team received training on tickets issuance to replace name-calling during service delivery. A modified exit survey was issued to interested PrEP clients to assess their satisfaction with privacy and confidentiality during their visit. The survey included an open ended question to capture additional clients' opinions on the intervention. To monitor progress, feedback from exit forms was analysed bi-weekly using Excel, documenting feedback proportions and satisfaction levels across the period.
Lessons learned: Positive trends were observed in both the feedback proportions as well as clients' satisfaction (Figure1). PrEP clients praised the intervention for reducing name-calling and reported improvements in privacy and confidentiality, recommending its use in other service delivery points, such as laboratory. One client remarked, *"These tickets are a good idea."* However, some clients expressed concerns about the potential spread of transmissible diseases through shared tickets and suggested a digitalized system similar to banking services.



Conclusions/Next steps: Findings from the initial phase of the quality improvement project indicate that the ticketing model enhanced clients' experiences at the PrEP service delivery points. Scaling this practice within health systems could cut on stigma and improve access to PrEP for individuals who need it. Future efforts could explore digital solutions for broader implementation.

EP0999

The DREAMS interventions support school-going adolescent girls and young women (AGYW) in reducing pregnancy rates

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Background: According to the Namibia Ministry of Health and Social Services (2022) report, it was estimated that the teenage pregnancy rate among adolescent girls and young women (AGYW) aged 15- 19 was 23.9% in Kavango West region, which is the highest in the country. Adolescents who experience pregnancy may face challenges such as poor school performance and higher rates of dropping out.
Medically, pregnancy during adolescence can increase the risk of low birth weight, premature deliveries, congenital malformations, and challenges with fetal brain development. Adolescents who become pregnant may also encounter maternal complications, including elevated blood pressure, depression, and delivery-related injuries. Additionally, they may face an increased risk of sexually transmitted infections, including HIV.
Description: As part of the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) core package of interventions, the Reach Namibia project works closely with schools to engage AGYW. This includes education on pregnancy prevention, family planning, and providing services related to sexual and reproductive health (SRH). The importance of abstinence and delaying sexual activities is also emphasized in the DREAMS sessions.
The project implementation started in late 2023 and scaled up in 2024 in the Kavango West region. Selection of DREAMS schools was made in consultation with the Ministry of Education, Arts and Culture, at the regional level. The selection criteria prioritized schools with high pregnancy rates and school dropout rates.
Lessons learned: A total of 3,944 out of the estimated 5,925 (67%) AGYW population in Kavango West, aged 15–19, were reached with DREAMS interventions in 27 selected schools in the Kavango West region. In 2022, before the implementation of DREAMS activities, these schools recorded 326 pregnancies among adolescents compared to 162 pregnancies recorded in 2024.
This change represents a 49.7% reduction in pregnancy rates after the inception of DREAMS activities in the Kavango West region.
Conclusions/Next steps: The implementation of the DREAMS comprehensive package of services is showing promising results in reducing pregnancy rates among AGYW in the Kavango West region. Efforts must be made in collaboration with the Ministry of Education, Arts and Culture to scale up these interventions to reach more AGYW in schools.

EP1000

"We are like a family": traditional healers' and biomedical practitioners' perceptions of collaborative HIV care in rural Uganda

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Background: As Uganda approaches the UNAIDS's 95-95-95 targets, strategies are needed to close remaining care gaps. In rural areas, task-shifting has emerged as a promising strategy to enhance HIV testing and antiretroviral therapy (ART) adherence. Prior research highlights that involving traditional healers (TH) in HIV care can be effective, but programmatic success hinges on support from biomedical clinicians.

Our qualitative sub-study, embedded within an ongoing clinical trial, explores TH and clinician perspectives on collaboration to enhance HIV care for people living with HIV (PLWH) in their communities.

Methods: In July 2023, counselors from local HIV clinics trained 22 TH on principles of HIV transmission, prevention, ART adherence support, stigma reduction, and facilitating HIV self-testing. We conducted qualitative interviews with all participating TH and a purposive sample of clinicians from five HIV clinics in Mbarara and Rwampara Districts to explore their perceptions of training and collaboration. After 9 months, we conducted follow-up interviews to examine ongoing experiences. All interviews were conducted in the local language (Runyankole), audio-recorded, translated/transcribed into English, and thematically analyzed.

Results: Baseline and 9-month interviews were completed with 22 TH and 20 clinicians. Clinicians were optimistic about involving TH to improve rural HIV care, reduce HIV stigma, and facilitate serostatus disclosure, emphasizing that PLWH trust and frequently access TH. Clinicians also expressed concerns about TH maintaining confidentiality, potentially deterring PLWH from clinical care, and insufficient HIV-related knowledge. TH reported feeling ostracized by biomedical providers but voiced hope for collaborative partnerships that foster professional and social integration while preserving autonomy. After nine months, both groups reported significant progress in building relationships characterized by bidirectional trust, effective communication, and strengthened connections.

Conclusions: Our study demonstrates how task-shifting programming can bridge gaps between informal and biomedical care providers to potentially improve outcomes for PLWH.

Structured training and longitudinal engagement are essential to building trust and sustaining collaboration. While clinicians initially harbored biases against TH, continued collaboration fostered positive perceptions. TH experienced initial stigma but gained respect through demonstrating competency and trustworthiness.

Future efforts should focus on reducing stigma towards informal providers and integrating them into healthcare systems to address gaps in care for PLWH.

EP1001

Improving TB yield among household TB contacts through additional 6-months follow-up contact investigation: lessons from Malawi

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Background: World Health Organization recommends household TB contact investigation as one of the strategies for active TB case-finding. The Malawi National TB and Leprosy Elimination Program adopted the strategy and recommends that household contacts of pulmonary TB cases need to be screened within 2 weeks of TB treatment initiation. The national target for TB case yield from contact investigation is 1%, but routine data showed 0.1% performance in health facilities supported by Partners in Hope, a local medical organization. To improve yield from contact screening, we re-screened household contacts after 6-months from the initial screening to improve TB yield.

Description: With USAID funding, Partners in Hope collaborated with the Ministry of Health and Paradiso TB Patients Trust, to develop 6-month household contact rescreening in Lilongwe, Chikwawa, and Nsanje districts. Household contacts were line-listed from TB contact registers from the cohort that received initial screening between January 2023 and March 2024. Paradiso TB Patients Trust volunteers traced them for WHO standard 4-symptom TB screening. Sputum samples from presumptive TB cases were taken to the nearest facility for MTB Xpert or microscopy testing according to MOH guidelines.

Descriptive statistics were used to compare TB yield at initial versus at 6-month follow-up TB screening exercises, HIV-co-infection rate and mode of TB diagnosis.

Lessons learned: A total of 4,777 contacts were evaluated with only 0.1% (5/4,777) TB cases identified. In the 6-month re-screening exercise, 98% (4,688/4,777) contacts were screened and an additional 21 TB cases were identified. The yield of rescreening was 0.4% (21/4,764) and the combined TB yield from the initial and 6-month evaluation was 0.5% (26/4,777).

TB/HIV co-infection was 20% (5/26) and 88% (23/26) were MTB positive with no rifampicin resistance identified. The remaining three cases were diagnosed clinically. All TB clients were linked to treatment.

Conclusions/Next steps: Re-screening household contacts after 6 months by lay cadre volunteers demonstrated potential for improving TB case yield, which was 5 times higher than at the initial screening.

We recommend intensifying 6-month follow-up TB contact investigation in routine clinical practice. However, other interventions are needed to further improve TB yield from contacts to reach the national target.

EP1002

Factors influencing the attitudes and willingness of healthcare workers to offer pre-exposure prophylaxis in Africa: a systematic review and meta-analysis

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Background: Pre-exposure prophylaxis (PrEP) is useful for preventing HIV acquisition among key populations. Healthcare workers' attitudes and willingness to provide PrEP can significantly influence its uptake among key populations.

We conducted a systematic review and meta-analysis to identify the factors influencing healthcare workers' (HCWs) attitudes and willingness to offer PrEP in Africa.

Methods: This study followed the PRISMA guidelines. A systematic search was conducted on PubMed, Google Scholar, Embase, and the Cochrane Library to identify relevant studies. Eligible studies reported on HCWs' knowledge, attitudes, or willingness to offer PrEP in Africa.

Study quality was assessed using Joanna Briggs Institute checklists Pooled proportions and 95% confidence intervals were calculated using the random effects model in R. Qualitative analyses were done to identify barriers and facilitators.

Results: From 293 unique citations, 34 studies across 12 countries comprising 2,758 participants were included. 60.4% of participants were female. Study designs included 7 quantitative studies, 1 mixed-methods study, and 26 qualitative studies. Nurses comprised 50.2% of HCWs, physicians 19.8%, counselors 8.13%, community health workers 8.04%, and pharmacists 3.92%.

PrEP awareness among HCWs was 86% (95% CI: 75% - 93%, I^2 = 88%) while only 18% of participants had good knowledge (95% CI: 4% - 55%, I^2 = 98.8%). Positive attitudes towards PrEP were expressed by 46% of HCWs (95% CI: 25% - 68%, I^2 = 97.74%), and willingness to offer PrEP was expressed by 58% (95% CI: 43% - 72%, I^2 = 95.28%), indicating relatively low levels of HCW willingness to offer PrEP.

Barriers to good knowledge, attitudes, and willingness to offer PrEP included moral objections, poor training, high workload, stigma, side effects, and concerns about adherence, efficacy, and risk compensation. Facilitators included adequate training, integration into existing services, perception of clients' HIV risk, younger HCW age, task shifting, community support, and the availability of adolescent-friendly health services.

Conclusions: This study demonstrates evidence of low knowledge, attitudes, and willingness to offer PrEP among HCWs in Africa, despite high levels of awareness.

There is a need for targeted interventions for improving HCWs' capacity and willingness to offer PrEP.

EP1003

Synergizing expertise: lessons learned from conducting the first HIV cure interventional trial in Africa with collaboration between academia, government, and industry

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Background: We conducted the first interventional HIV cure trial in Africa (NCT05281510) from June 2022 through January 2025. The study included an analytical treatment interruption (ATI) and enrolled early-treated young women living with clade C HIV-1 in South Africa, a population that bears a disproportionate burden of the global epidemic but remains underrepresented in clinical trials.

Description: This single-arm, open-label, clinical trial enrolled 20 women from the Females Rising through Education, Support, and Health (FRESH) cohort in Durban, South Africa, detected and treated during acute HIV.

Participants received 2 broadly neutralizing antibodies (bNAbs; VRC07-523LS and CAP256V2LS) and a Toll-like receptor 7 agonist, vesatolimod (VES), and underwent ATI for up to 55 weeks or until meeting antiretroviral therapy (ART) restart criteria.

There was early community engagement, extensive safety monitoring, including prolonged observation after VES and bNAb dosing, biweekly or weekly visits, frequent blood and tissue sampling, and longitudinal assessment of participant experiences. Participants who remained virally suppressed at the end of study and chose to remain off ART continued close monitoring through FRESH.

Lessons learned: This study provides insights into the implementation of complex trials in resource-limited settings. Having an established cohort and a trusting relationship with the site staff facilitated recruitment and likely improved participant retention and adherence to an intensive study protocol.

Gilead Sciences sponsored the trial and worked closely with key collaborators: the NIH Vaccine Research Center contributed extensive knowledge on bNAb development and supplied bNAbs, and the academic partners at the University of KwaZulu-Natal and the Ragon Institute provided scientific input and deep contextual knowledge of the local setting.

Finally, the study weathered several disruptive external events, including natural disasters, political unrest, and the COVID-19 pandemic, which required agility, resilience and extensive community engagement.

Conclusions/Next steps: It is critical to consider context and have a concrete plan for monitoring participants who remain off ART after study conclusion. This trial was a culmination of a productive partnership between aca-

demia, government, and industry, and demonstrated the feasibility of conducting complex HIV cure trials in Africa, where the most stand to benefit from these interventions.

EP1004

Imbedding comprehensive geriatrics assessment within a large HIV Clinic in western Kenya

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Background: Advances in antiretroviral therapy have extended the life expectancy of people living with HIV, resulting in a growing population of older adults living with HIV (OALWH) who face unique health challenges. Integrating Comprehensive Geriatric Assessment (CGA)—a systematic approach to identifying geriatric issues, preventing complications, and developing personalized care plans—has become increasingly important in HIV clinics. At the Academic Model Providing Access to Healthcare (AMPATH), one of the largest HIV programs in sub-Saharan Africa, we evaluated the utilization of the World Health Organization's Integrated Care for Older People (ICOPE) tool to prioritize and enhance care for OALWH.
Methods: We adapted the ICOPE tool to assess key domains of healthy aging, including cognition, mobility, nutrition, vision, hearing, and depressive symptoms, while incorporating questions on polypharmacy and comorbidities. HIV clinicians at the AMPATH clinic at Moi Teaching and Referral Hospital were trained on the adapted tool and data entry into REDCap. In November 2024, the trained clinicians utilized the adapted tool to assess individuals aged 50 years and above living with HIV during their routine clinic visits, entering the data directly into REDCap. Descriptive statistics were generated, including the frequencies of assessed conditions, to summarize the health profile of the participants.
Results: A total of 89 OALWH were assessed, the median age was 63.8 years (IQR: 61–67), and 65.8% were female. Cognitive impairment was identified in 15%, while two-thirds completed chair rises successfully. Falls were reported by 15%, and 11.4% experienced unintentional weight loss (1–3 kg) in the previous month, with 85% of these reporting appetite loss. Visual impairment affected 73%, while 9% and 8% experienced hearing loss in one or both ears, respectively. Depressive symptoms were present in 21.3%, 35.9% were on polypharmacy (more than five pills daily), and 68.5% had multimorbidity, including 25% with hypertension.
Conclusions: These findings underscore the diverse health challenges of OALWH and the need for integrated, holistic care. Tools like ICOPE can systematically identify and address these issues, enhancing outcomes and quality of life through tailored, multidisciplinary, patient-centered care strategies.

EP1005

Baseline HIV stigma among barbers and patrons in Tennessee and implications for barbershop-based stigma reduction interventions

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Background: HIV-related stigma is a barrier to addressing HIV care and prevention needs, and disproportionately impacts marginalized communities in the Southern United States. Cutting Out Stigma (COS) is a community-partnered, barbershop-based intervention designed to train Black barbers in Tennessee as Men's Health Ambassadors who promote sexual health, address HIV misinformation, and reduce HIV stigma.
This study aimed to assess baseline HIV stigma among participating barbers and their patrons, exploring differences between cities and populations.
Methods: social media and HIV care organization networks to participate in a one-day workshop to train them as Men's Health Ambassadors for the COS intervention. At workshop completion, we assessed HIV-related stigma using a validated scale comprising three subscales: negative attitudes, perceived discrimination, and equitable treatment in society. A convenience sample of patrons aged ≥18 years were subsequently recruited from shops of trained barbers using the same scale. Scores ranged from 1 to 4, with higher scores indicating greater stigma. Total and subscale stigma scores were compared within and between groups using unpaired t-tests.
Results: Sixty-seven barbers (38 Nashville, 29 Memphis) representing 34 shops (17 Nashville, 17 Memphis), and 88 patrons (80 Nashville, 8 Memphis) across 6 shops participated. Barbers' average age was 38.6 years, and patrons' average age was 36.2 years; 67% of barbers and 26% of patrons reported having post-high school education. Barbers exhibited higher total stigma scores (1.94 vs. 1.68, p=0.001) and negative attitude scores (1.53 vs. 1.26, p=0.001) compared to patrons. Among the subscales, average perceived discrimination scores were highest overall and were also greater among barbers than patrons (2.59 vs. 2.06, p=0.001). No differences were found in equity scores between barbers and patrons (1.69 vs. 1.86, p=0.19). Stigma scores among barbers and patrons did not vary by age, education, or city (p>0.5).
Conclusions: Barbers exhibited higher baseline stigma levels than patrons. While this finding might reflect heightened sensitivity among barbers to HIV stigma post training, it also highlights the importance of addressing implicit and explicit biases among community leaders who deliver HIV stigma reduction interventions.

EP1006

Sustaining HIV prevention amid resource constraints: strengthening community systems through a community-led monitoring approach in Matabeleland South

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Background: In resource-constrained settings like Matabeleland South, a Zimbabwe region with high HIV prevalence, sustaining prevention efforts requires innovative strategies that leverage community systems for program delivery and monitoring. Community-led monitoring (CLM) emerged as a transformative approach to address barriers to service access and enhance accountability. Implemented from 2023 to date, CLM facilitated feedback loops between communities and service providers, strengthened program ownership, and identified gaps in service provision.
This study evaluated the impact of CLM on the availability and quality of DREAMS services, attitudes toward harmful practices such as child marriages, school retention and reintegration rates for adolescent girls and young women (AGYW), and accountability in HIV prevention efforts.
Description: A cross-sectional approach assessed the impact of CLM activities across six districts of Matabeleland South. Data collection included focus group discussions with Community-Led Monitoring Taskforces (CLMTs), interviews with political, religious, and traditional leaders, and Zimbabwe Health Interventions program data reviews from 2023 to 2024. Key indicators included DREAMS service quality, school communities' attitudes toward harmful practices, school retention rates, and reintegration of school dropouts using village registers.
Lessons learned: CLM proved transformative in HIV prevention:

- Enhanced Services: CLM identified service gaps, leading to targeted interventions. 83% of CLMTs reported decreased child marriages.
- Educational Gains: Village registers showed a 73% reduction in school dropouts (6 vs. 23 the previous year).
- Reintegration Success: 98% (244/248) of dropouts were reintegrated into school.
- Community Empowerment: CLM fostered program ownership and improved service delivery accountability, cited by 75% of participants.

Conclusions/Next steps: CLM is a scalable, sustainable solution for HIV prevention in resource-limited settings. It places communities at the center of program monitoring and decision-making, addressing systemic challenges while enhancing accountability and relevance. Expanding CLM, building CLMT capacity, and integrating its lessons into national strategies are critical next steps to sustain gains in epidemic control.

EP1007

Expanding access to HIV and sexual reproductive health products and services in Zimbabwe: key findings from a private pharmacy market assessment

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Background: Despite progress toward HIV epidemic control in Zimbabwe, gaps in access to HIV and sexual reproductive health (SRH) products persist, particularly for key populations. Pharmacies provide a stigma-free, discreet, and cost-effective alternative to public and private health facilities, yet restrictive policies have limited their potential to deliver HIV and SRH services.
To address this, Population Services International (PSI), Population Solutions for Health (PSH), and the Ministry of Health conducted a market assessment of Zimbabwe's private pharmaceutical sector to identify gaps and opportunities for enhancing access to essential HIV/SRH products and services.
Methods: Between April and June 2024, 23 key informant interviews (KIIs) were conducted with stakeholders, including manufacturers, distributors, pharmacy networks, regulators, government agencies, and funders.
Secondary research included a desk review of literature, sales, and prior market assessments (2021–2024). Data were synthesized through thematic content analysis, triangulation of KII insights, and quantitative analysis of product sales, pricing, and margin economics.
Results: Private pharmacies in Zimbabwe serve diverse clientele, including youth ages 15 to–24, key populations, and adult general population. Popular products include condoms, HIV self-tests, emergency contraception, and oral contraceptives. Although HIV Pre-and Post Exposure Prophylaxis are available, demand remains low due to free availability in public facilities, high private-sector prices, and limited consumer awareness.
Key barriers include restrictive policies limiting pharmacists' scope of practice, unregulated markets for products like HIV self-test kits, low procurement volumes leading to stock-outs, and limited consumer willingness or ability to pay.
Conclusions: Private pharmacies have significant potential to expand access to HIV and SRH services in Zimbabwe, particularly for underserved populations and those at highest HIV risk. Key strategies include expanding pharmacists' roles, fostering public-private partnerships for training, and improving cross-sector data exchange. Despite price sensitivity, the trust in community pharmacies positions them as critical access points for HIV and SRH services. Addressing these barriers can strengthen pharmacies' contributions to Zimbabwe's HIV response.

EP1008

Improving Pre-Exposure Prophylaxis uptake among sexually transmitted infections clients through integrated service delivery: lessons from PrEP up! Quality improvement collaborative in Blantyre, Malawi

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Background: Malawi's public facility rollout of oral PrEP for HIV prevention began in 2021. Since the introduction of oral PrEP in Blantyre—Malawi's district with the highest HIV prevalence—a significant number of eligible clients were those who came with an STI, but they were missed since PrEP service delivery was done only at ART clinics. Malawi is among the top 10 countries with highest rates of STIs including HIV, but after oral PrEP introduction, only one public facility in Blantyre integrated PrEP with sexually transmitted infections (STI) services.
Therefore, the Blantyre District Health Office, with support from the Blantyre Prevention Strategy (BPS), launched an STI-focused Quality Improvement Collaborative (QIC) affinity group in 2023, which aimed to increase PrEP uptake among STI clients across 18 facilities (4 hospitals and 14 health centers). The affinity group approach was a novel strategy for improving access to HIV prevention services in Malawi.
Description: The district-based STI-PrEP affinity group comprised of STI and PrEP providers was launched after a one-day orientation on the affinity group approach. Standardized indicators for STI and PrEP services were introduced. Facilities developed tailored client flow processes and implemented Quality Improvement (QI) changes.
The group held monthly virtual meetings where data was presented on total STI diagnosis, percentage of STI clients ascertained for HIV and their results, and percentage of eligible clients who were initiated on PrEP. Progress and data were reviewed quarterly during QIC learning sessions.
Lessons learned: The integration of PrEP into STI services via the QIC affinity group led to significant improvements. Public facilities offering integrated PrEP-STI services increased from 1 (6%) to 12 (67%) out of 18. PrEP uptake increased by 75% in facilities with integrated services, with PrEP initiation among eligible STI clients increasing substantially to 82% from 16%.
Key changes contributing to these outcomes included demand creation for PrEP services, redesigning client flows, peer-to-peer service navigation, and a "same-room, same-provider" service model.
Conclusions/Next steps: Integrating PrEP into existing HIV prevention services is an effective strategy for improving PrEP uptake. The QIC affinity group approach serves as a valuable catalyst for achieving effective service integration and scaling HIV prevention efforts.

EP1009

What's YAB got to do with it? Best practices from an urban youth advisory board promoting sexual health and PrEP in the U.S.

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Background: Youth education and empowerment combats the stigma and misinformation surrounding HIV. Youth Advisory Boards (YAB) play a critical role in educating young people about HIV and sexual and reproductive health while dismantling biases.
Here we share lessons learned from implementing a status-neutral YAB at the HIV program at Children's National Hospital (CNH) in the United States.
Description: Launched in July 2023, the HIV status-neutral YAB recruited 25 youth, ages 13-24, with and without HIV, through school workshops, community clinics, referrals, and outreach events. From August 2023 to May 2024, the CNH outreach team convened monthly YAB meetings focusing on HIV education. In August 2024, the YAB transitioned to a peer-based leadership infrastructure to optimize youth involvement, address their unique needs, and engage them in HIV prevention and treatment education through guest speakers from diverse programs and community partners.
To engage their peers in HIV and PrEP discussions outside of the YAB, members launched several projects, including the *"PrEP The Youth"* podcast and Instagram account, and organized multiple community events (e.g., fashion shows, LGBTQ+ Pride celebrations, and hot chocolate socials). The podcast, launched in September 2024, is co-hosted by two YAB members, a college and a high school student, and covers topics on sexual health, PrEP, and research, featuring guests from health departments, research networks, and youth. The podcast has reached over 2000 viewers, boosting social media engagement. In 2025, a YAB-inspired "*PrEP The Youth*" website will launch as an online sexual health hub for youth.
Lessons learned: A successful YAB thrives on shared leadership and responsibility. By transitioning leadership to youth, members can tailor initiatives to their communities' needs. Youth are encouraged to engage openly

in discussions, creating a respectful environment where misinformation is corrected. Additionally, social media engagement and the podcast allowed YAB to reach larger audiences.

Conclusions/Next steps: YABs play a vital role in ending the HIV epidemic by breaking sexual health taboos and engaging youth in meaningful ways. By dividing responsibility, YAB members stay invested in advocating for HIV and PrEP education both within the group and their communities. Moving forward, members will continue expanding their leadership and fostering peer-to-peer relationships.

EP1010

Expanding the network: baseline assessment on provision of HIV and SRH prevention services in private sector facilities in Bulawayo, Zimbabwe

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Background: Zimbabwe faces a generalized HIV epidemic, with adolescent girls and young women (AGYW), at-risk young men disproportionately affected. Despite access to HIV prevention and sexual and reproductive health (SRH) services in the public sector, barriers to access exist. To improve access, the Triple-P project was commenced to explore how to expand adolescent-friendly HIV/SRH services through private-sector pharmacies and clinics in Bulawayo, Zimbabwe.

A baseline assessment was conducted to evaluate the current capacity of selected private-sector health facilities and assess available HIV prevention services prior to project inception.

Methods: A mixed-methods approach, combining semi-structured questionnaires and facility observations was conducted across 21 private health institutions between March-May 2024. Targeted private health facilities included retail pharmacies (14/21), hospitals (4/21) and clinics (2/21) and private doctor's practices (2/21). Data was collected using an ODK customized tool and was analyzed using Stata Version 17.

Results: While the majority, especially pharmacies, offered oral contraceptives (81%), emergency contraceptives (76%), HIV self-test kits (76%), and pregnancy test kits (67%), access to HIV post-exposure prophylaxis (57%) and pre-exposure prophylaxis (22%) was limited. Regarding HIV/SRH services, family planning counselling (90%) and pregnancy testing (86%) were widely available, including at pharmacies.

However, availability of sexually transmitted disease diagnosis and treatment (61%) and HIV testing and counselling (52%) was low, especially at pharmacies. Despite this, private pharmacies and clinics were conveniently located, had lower waiting times, and offer integrated services. Referral systems though present, were informal and lacked standardization, undermining service linkages and follow-up, highlighting gaps in staff training and service integration. Other challenges included commodity stock-outs, high pricing, inadequate infrastructure for confidential consultations, and limited client awareness of available prevention options.

Conclusions: Expanding the network of HIV prevention services through engagement of private sector partners would complement existing efforts within public sector and may reach clients who are missed or do not access public health services for a variety of reasons.

The Triple P program will design and test a model of public private partnership that will expand HIV prevention services for AGYW and at-risk young men through addressing barriers such as training gaps, product availability, affordability, infrastructure constraints and regulatory barriers.

EP1011

Does person-centered care translate to better HIV treatment outcomes? Evaluating the effectiveness of a person-centered care assessment tool in HIV treatment settings in Zambia

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Background: Person-centered care (PCC) demonstrates the potential to overcome inequities across the HIV care continuum, while increasing efficiencies and improving treatment outcomes. Despite PCC being considered a best practice, no consensus exists on how to systematically measure and assess it against health outcomes.

To address this gap, JSI developed a PCC assessment tool (PCC-AT) to strengthen health facilities' ability to operationalize PCC in HIV treatment settings.

Methods: JSI conducted a mixed-methods study in September 2023 at 29 randomly selected facilities in Zambia's Copperbelt and Central provinces to evaluate PCC-AT effectiveness in measuring PCC delivery, and assess relationships between PCC delivery and key HIV treatment outcomes. Advisors from the JSI-led USAID DISCOVER-Health project facilitated discussions with antiretroviral treatment (ART) provision teams to develop consensus scores from 1 (standard never met) to 4 (standard always met) across 3 PCC-AT domains (staffing, service provision, direct client support), and action plans to identify PCC-strengthening activities.

Quantitative analysis included descriptive statistics, cross-tabulations and regression techniques to assess associations between PCC-AT scores and aggregate HIV treatment outcomes (treatment continuity, VL coverage, viral suppression). Action plan data was analyzed using descriptive coding.

Results: Median PCC-AT scores were highest in the staffing domain at 3.0 (2.25-3.75), with service provision at 2.5 (1.5-2.75), and direct client support at 2.5 (1.5-3.0). HIV treatment outcomes were generally high: median treat-

ment continuity was 100% (97%-100%), VL coverage 85% (70%-98%), and viral suppression 97% (91%-100%). PCC-AT scores varied by outcome measure, however, no statistically significant associations were found.
Facilities proposed PCC-strengthening actions most frequently within the client feedback mechanisms subdomain, followed by staff availability, composition, competency, and digital health worker support tools.
Conclusions: This study contributes to the evidence base on how to measure and improve PCC delivery in HIV treatment settings. Facility PCC-AT scores were not significantly associated with aggregate HIV treatment outcomes, likely due to the high performance in outcomes among facilities in the sample.
However, even in high-performing facilities, the PCC-AT helped staff identify ways to improve PCC, demonstrating a promising approach for using data to improve HIV programming at scale.

EP1012

Sustaining adolescent viral suppression through collaborative approaches during adolescent clinic days in Zimbabwe

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Background: Differentiated service delivery models (DSD) in the provision of antiretroviral therapy (ART) services remain key in addressing the needs of different target populations. Viral load coverage (VLC) and viral suppression are critical indicators in monitoring treatment, access and response for people on ART. UNAIDS in 2023 described that globally only 59% of people of ART were achieving viral suppression. Among children and adolescents in 2021 the viral suppression was around 41%. The low viral suppression is due to poor access to monitoring services, suboptimal adherence to treatment and stigma. This calls for holistic and collaborative approaches to improve access to services and offer relevant support services for adolescents to meet the 95-95-95 global targets.
Description: JF Kapnek Zimbabwe is implementing the Target Accelerate Sustain Quality Care (TASQC) program from 2020 supporting the Ministry of Health in Zimbabwe. The project has been supporting Adolescent Clinic Days since 2020. The package of care during the adolescent clinic days includes clinical care services, peer counselling, games, enhanced adherence sessions for those with high viral loads and mental health counselling.
Stakeholders from the clinical, laboratory, social services, peer counselors, community health workers and mental health nurses are involved. Viral load monitoring data from 18 clinics in Masvingo district for the age group 10-19 was analyzed to ascertain the VLC and viral suppression trends from October 2020 to June 2024.
Lessons learned: The average VLC was 81% whilst the average viral suppression rate was 90%. For health facilities, only 9 out of the 18 facilities had VLC above 90% in 2020 and in 2024 13 facilities out of the 18 had VLC above 90%. In 2020, 3 out of the 18 facilities had viral suppression rates at 95% and above whilst in 2024, 14 out of the 18 facilities had viral suppression rates at 95% and above.
Conclusions/Next steps: Adolescent clinics are critical as a DSD model to ensure that progress made by facilities in increasing the viral load coverages and sustaining high viral suppression rates is maintained. The use of multidisciplinary teams during these clinics which serve different needs of the adolescents is important.

EP1013

Standardized ART outcomes of residents from border countries compared to Malawian residents registered in the Malawi ART program

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Background: Regular cross-border mobility is a risk factor for unfavorable antiretroviral therapy (ART) outcomes, in particular for attrition from care. We compared standardized ART outcomes between residents from Malawi with residents from border countries, registered in the Malawi HIV program.
Methods: We conducted a retrospective-analysis at 25 health facilities (HFs) whose catchment areas border Mozambique, Tanzania and Zambia in 4 districts supported by Partners in Hope, a Malawian non-governmental, PEPFAR implementing partner. We extracted routinely collected, aggregated data from ART registers and electronic monitoring systems of individuals (all ages), enrolled on ART between the opening of each ART clinic and December 2024.
We used descriptive statistics to analyze data for the following routine ART outcomes: Alive on ART; Died; Transferred Out (TO), i.e. formally administrated to another ART clinic; Stopped ART and Defaulted, defined as missed last appointment and known to have run out of ART for at least 60 days. We calculated Total Adverse Outcomes by adding up Died, Stopped ART and Defaulted. We used the total ever registered (TER) on ART at the HF as denominator for the prevalence of TO. For prevalence of Alive on ART, Died and Defaulted, we used TER minus TO.
Results: Among 115,396 individuals who ever registered on ART, 7,310 (6.3%) were residents from border countries. TO prevalence was not significantly higher among residents from Malawi than residents from border countries (22.0% vs. 19.4%; p=0.759). Prevalence of Alive on ART (57.5% vs. 52.4%; p=0.193) and Stopped ART (0.9% vs. 0.8%; p=0.914) were similar in both groups, but more had died (10.3% vs. 3.9%; p<0.001), among Malawian residents. Prevalence of Defaulted was significantly higher among residents from border countries (31.4% vs. 42.8%; p=0.003). Prevalence of Total Adverse Outcomes was higher among border country residents (vs 42.5% vs. 47.6%; p=0.189), though the difference was not statistically significant.

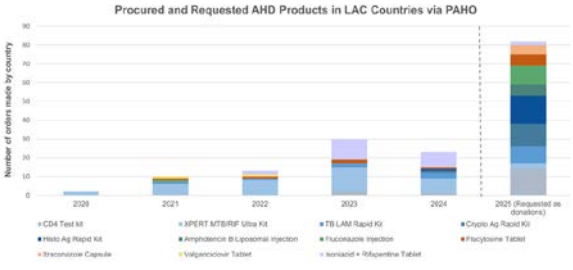
Conclusions: The higher prevalence of Died among Malawian residents may be impacted by detection bias. Although the much higher probability of defaulting from ART among residents from Mozambique may be influenced by more silent, informal transfers to other ART clinics, interventions to improve their continuity of care need to be considered.

EP1014

Opportunities to strengthen procurement of advanced HIV disease commodities in Latin America and the Caribbean

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Background: Latin America and the Caribbean (LAC) report approximately 33,000 HIV-related deaths annually, with opportunistic infections (OIs) like tuberculosis (TB), histoplasmosis, and cryptococcal meningitis contributing significantly. Despite the proven efficacy of the WHO-recommended Advanced HIV Disease (AHD) package, which includes priority rapid diagnostic tests and treatments for OIs, its implementation in LAC remains limited.
To address this, the Pan American Health Organization (PAHO), with support from Unitaid, is collaborating with countries to expand access to AHD commodities in the region.
Description: The PAHO Strategic Fund (SF), a pooled procurement mechanism, facilitates access to essential health commodities across LAC. We analyzed SF procurement data for AHD-related commodities from 2020 to 2024. Additionally, during Q4 2024, we surveyed National HIV Programs in the region to evaluate their interest in receiving in-kind donations of AHD products through PAHO in 2025.
Lessons learned: Between 2020 and 2024, there was a gradual increase in the procurement of specific AHD products across LAC, predominantly focused on TB, with products such as XPERT MTB/RIF Ultra Kits and 3HP regimen accounting for most orders. However, the procurement of commodities for the diagnosis and treatment of OIs remained low during this period. Survey responses from 17 National HIV programs showed interest in receiving AHD products as in-kind donations for 2025, with 15 countries expressing interest in Histo Ag rapid tests, and 12 in Crypto Ag rapid tests.



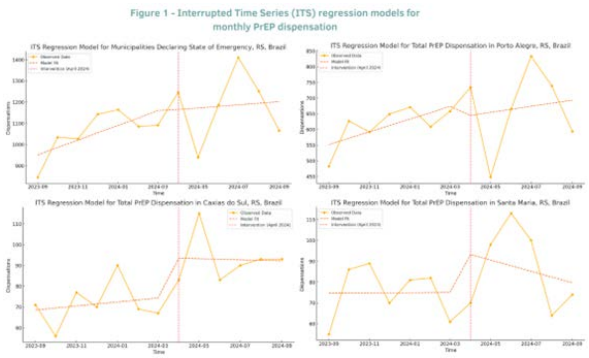
Conclusions/Next steps: Survey responses reflect that countries are open to incorporating AHD commodities when provided at no cost, recognizing their importance in addressing AHD-related OIs and reducing mortality. This interest when products are offered for free suggests that affordability plays a significant role in affecting their inclusion in national procurement plans. This underscores the potential of PAHO's SF to address this barrier by consolidating demand, achieving more competitive pricing, and supporting AHD procurement plans across the region.

EP1015

Resilient HIV prevention during climate crisis: insights from PrEP dispensation in Brazil's 2024 floods

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Background: Climate change heavily impacted Brazil in 2024, particularly Rio Grande do Sul (RS) state, where an historical flood occurring between late April-May led to a state of public emergency. Over 60% of the state was affected, with 629,000 people displaced. HIV pre exposure prophylaxis (PrEP) is available in Brazil through the National Public Health System (SUS) since 2017. This study assessed the flood's impact on HIV PrEP dispensation.
Methods: We analyzed PrEP dispensation data from the national HIV medication control system (SICLOM) for the 78 municipalities in RS under public calamity status September 2023-September 2024. SICLOM is a robust Brazilian electronic system for managing and monitoring the distribution of all antiretroviral medications dispensed in the country, including PrEP.
An **Interrupted Time Series (ITS)** analysis evaluated trends and changes in PrEP dispensation level before, during, and after the flood. Data were stratified by municipality, age, race, and educational level.
Results: Out of the 78 affected municipalities, only 19 (24.4%) had PrEP services with at least one PrEP dispensation and were included in this analysis. In May 2024, PrEP dispensations declined, coinciding with the flood peak, followed by a compensatory increase in the subsequent months, though these changes were not statistically significant (Figure). In Porto Alegre, RS capital, which was severely affected, the decline in May was the most pronounced (Figure).



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Younger people, Black individuals, and those with lower educational levels experienced a greater decline in dispensations, but these differences were not statistically significant.

Conclusions: We did not observe a significant impact of the 2024 flood on PrEP dispensing rates. PrEP services through the Brazilian public health system remained accessible, demonstrating system resilience, however, overall limited PrEP availability highlights the need to expand access in underserved regions. Future research should explore the long-term effects of climate emergencies on HIV prevention to protect vulnerable populations.

HIV and development synergies

EP1016

Can male engagement activities increase participation in gender-based violence prevention programs? A case of SASA! Together in Tsholotsho district, Zimbabwe (2024)

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Background: Harmful gender norms (e.g., men's power over women) have been recognized as a key contributory factor to gender-based violence (GBV). Engaging men and boys can potentially strengthen the effectiveness of GBV prevention. The DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored and Safe) program aims to reduce HIV and GBV incidence among adolescent girls and young women, integrating community gender norms transformation (GNT) approaches that include the Start, Awareness, Support, Action (SASA!) Together model, which explores power dynamics between men and women through community dialogues that focus on addressing GBV and identifying men's power over women as the root cause of violence against women.

Description: Previous feedback on SASA! Together community dialogues indicated that men perceived SASA! Together as 'feminine with focus on women's issues.' SAfAIDS, a DREAMS implementing partner, responded by piloting 'Men-Only' SASA! Together dialogues in Tsholotsho through capacitating male community members, including political, religious and traditional (PRT) leaders to support male mobilization. SAfAIDS adapted SASA! Together integrating GNT approaches to counter harmful/toxic masculinities (e.g., male chauvinism); balance power dynamics, and equip men as proponents in ending GBV. Three groups with 25 male participants each (>18 years) as guided by SASA! Together model, were mobilized by SASA! Champions to attend eight sessions, over six months. Male mobilization increased by 5% through engaging trained male SASA! Champions, who conducted dialogues at places where men frequently congregate e.g., shopping centers on Wednesdays, a holy day of rest ("Chisi/Izilo") in the district.

Lessons learned: Establishing Men-Only groups enabled men to explore gender norms without fear of judgment from women; and engage in honest self-reflection on GBV. Retention of males in three Men-Only groups was 6% higher than in 63 mixed-gender groups in Tsholotsho, with 1474 participants in six months; and is anticipated to increase as this approach is applied for longer periods. Engaging male PRT leaders primed credibility and encouraged increased male participation from the community as they can powerfully role-model positive masculinities, evidenced by those trained in SASA! Together.

Conclusions/Next steps: Scaling-up Men-Only groups contributed to improved male participation in SASA! Together, increased GNT, and engagement of males as partners in ending GBV.

EP1017

Coaching Boys Into Men (CBIM) and violence prevention intervention: perceptions of adolescents boys completing the CBIM Curriculum in the Copperbelt and North-western Provinces

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Background: Gender-based violence (GBV) refers to any act done to someone against their will because of gender-norms, and unequal power relationships and the main perpetrators of GBV are predominantly men and boys. Globally, one in three women have experienced violence at least once in their lifetime. In Zambia, GBV is a serious public health and social problem.

According to the Zambia Demographic Health Survey (2018), 36% of women have experienced physical violence since age 15 while 17% of women have experienced sexual violence. GBV has affected women, especially in the reproductive age, leading to maternal mortality and other adverse health and social outcomes.

Description: USAID Empowered Children and Adolescents Program I is implementing community group-based interventions aimed at reducing violence targeting adolescent boys aged 10-14 in nine high HIV burden districts in the Copperbelt and North-western provinces. The adolescent boys participate in 12 sessions of CBIM over a period of 3-5 months and learn about respect, integrity and

non-violence behaviour, including avoiding cyberbullying, towards women and girls. These topics are designed to help adolescent boys to grow up as responsible adults that avoid violence.

Lessons learned: The intervention has resulted in adolescent boys to have increased knowledge about violence and HIV prevention, improved decision making, as well as being assertive and responsive to violent environments. From 2021Q1 to 2024Q4, the project reached 56,177 adolescent boys with the CBIM curriculum, which translates to 117.3% achievement.

Further, 97% demonstrated knowledge of different forms of harassment, abuse, and sexual violence and would safely intervene to stop disrespectful sexual behaviour.

Conclusions/Next steps: The intervention has resulted in increased knowledge on GBV and HIV prevention among adolescent boys while increase their assertiveness and responsiveness to violent environments. There is need to scale-up similar group-based intervention to targeted adolescent boys to reduce violence perpetuation among men and boys.

EP1018

Overcoming barriers to viral suppression: the role of viremia clinics for People Living with HIV in Kwara State, Nigeria

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Background: Despite massive investment and supports for people living with HIV (PLHIV) to attain the 95% viral suppression benchmark, there exist repeated challenges for some clients, which clog their progress to viral suppression. This study assessed the barriers being experienced by clients and the impacts of Viremia Clinic in enhancing viral suppression among PLHIV in Kwara State, Nigeria.

Methods: The study utilized retrospective design. 344 unsuppressed viral load results were received in March, 2023 from six selected high volume facilities in Kwara State, Nigeria. Viremic clinic data were used to identify their reported barriers during their first EAC. Barriers were identified using the EAC Barrier Assessment Form. All were recruited into focused intervention through the viremia clinic and adopted Health Belief Model (HBM) that focused on client-centered adherence counseling, peer mentoring, caregiver engagement, and differentiated service delivery models. Pre-and post EAC viral load results were used to measure virological re-suppression rates.

Results: Of the respondents, 209 were females and 135 were males aged between 18–65 years. The viral load for these patients ranged between 1,500 to 50,000 copies/ml. The identified barriers to adherence included psychological factors of depression and stigma at 20.5%, behavioral factors of missed doses and irregular dosage at 58.4%, pharmacological issues of side effects and drug-drug interactions at 16%, and financial constraints of high transportation costs and food insecurity at 2%. Assessment on post-EAC virological suppression was 83.7%. Suppression rates varied between facilities: the highest rate at 95%, as indicated by Children Specialist Hospital, Centre Igboro, Kwara State, Nigeria, while other sites range from 65%. Suppression among females was higher-90.4% than in males, which stood at 73.3%.

Conclusions: PLHIV experience various barriers that impede their journey to viral suppression. Viremia Clinic evidently improved virological suppression among unsuppressed clients through Enhanced Adherence Counselling. Exploring various barriers being experienced by clients should be sustained to continue to guide targeted interventions using the viremia clinic platforms.

EP1019

Breaking barriers: empowering male champions to boost HIV testing among men in a pastoral community in Northeastern Uganda

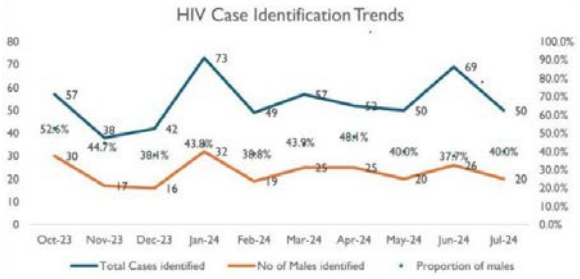
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Background: Karamoja region in northeastern Uganda faces significant barriers to HIV case identification among men due to cultural norms, stigma, poor health-seeking behaviour, and limited access to healthcare facilities. These challenges hindered progress toward achieving the first 95 target: ensuring 95% of people living with HIV know their status

Description: From October 2023 to July 2024, influential male community members, known as Male Champions, were engaged to address barriers through a culturally sensitive, person-centred approach. The Male Champions conducted outreach activities in informal settings such as markets and religious gatherings, promoted HIV testing, distributed HIV self-testing kits, and referred those with reactive results for confirmatory testing at health facilities.

Lessons learned: This initiative led to a 34% increase in HIV testing rates among men, with new HIV-positive cases exceeding the monthly target of 13. Over 2,544 HIV self-testing kits were distributed, with a 95% uptake rate. All those who tested positive were successfully linked to care within two weeks. Community dialogues also helped reduce myths and misconceptions about HIV testing.



Conclusions/Next steps: Community engagement is crucial for ensuring sustainability in initiatives, as it fosters local ownership and participation. Adapting training materials to fit local contexts enhances effectiveness, making interventions more relevant and impactful. The Male

Champions initiative significantly improved HIV case detection and testing among men in Karamoja, highlighting the value of tailored, community-driven approaches in increasing access to HIV services.

EP1020

Unlocking post-exposure prophylaxis access: enablers and barriers to eligibility, initiation and completion in Karamoja region, Northeastern Uganda

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Background: Post-Exposure Prophylaxis (PEP) is a critical intervention for preventing HIV transmission following potential occupational and non-occupational exposure. Despite its availability, various factors hindered the initiation and completion of PEP particularly among survivors of sexual violence in Karamoja region.
This initiative aimed to identify enablers and barriers to PEP eligibility, initiation, and completion among Sexual and Gender Based Violence (SGBV) survivors and explore perspectives of healthcare workers and community structures on delivering PEP services in Karamoja.
Description: A qualitative exploration of enablers and barriers was conducted utilizing a semi-structured questionnaire administered to 44 SGBV survivors, 48 health workers and 68 community resource persons.
Lessons learned: Barriers to seeking timely care included fear of disclosure, lack of family support, lack of information, and misconceptions about HIV transmission. PEP initiation was hindered by misinformation from peers, and fear of side effects.
Challenges to PEP completion involved fear of a partner's reaction, side effects, and social discrimination. Enablers of PEP access and initiation included family and social support, advice from friends, proximity to health facilities, and provider recommendations.
Completion of PEP was facilitated by counseling, family support, and medical guidance. Health worker perspectives highlighted late reporting after 72 hours causing non-eligibility while community resource persons cited lack of resources, cultural issues, and fear of retaliation as challenges. Survivors often declined referrals to health facilities due to fear of exposure, shame and family influence.
Conclusions/Next steps: These findings highlight complex social, cultural, and medical factors that impact the effectiveness of PEP interventions. Addressing these challenges requires community education, stigma reduction, and social support systems for timely and complete access to PEP for SGBV survivors.

EP1021

Disability-inclusive HIV prevention: impact of the no means no program in preventing sexual and gender-based violence among adolescent girls and young women with disability in Niger State, North-Central, Nigeria

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Background: Women and girls with disabilities are more vulnerable to sexual and gender-based violence (SGBV), which increases the risk of acquiring HIV. The inclusion of people with disabilities-PWD (15% of the global population) is essential to drive HIV prevention *(UNAIDS)*.
This study evaluated the impact of No Means No in preventing SGBV among adolescent girls and young women (AGYW) with hearing and speech impairment aged 9-22, under the Integrated Child Health and Social Services Award (ICHSSA 3), funded by USAID.
Methods: We developed a Beneficiary Disability-Inclusion Framework and conducted a Disability-Inclusion Assessment to identify PWD for HIV prevention. The government approved the implementation of No Means No at the Niger State School for Special Education. We engaged 4 volunteer sign-language interpreters among female teachers. We trained 4 students–AGYW with hearing and speech impairment as instructors on a 10-hour No Means No curriculum to teach their fellow students the skills to prevent SGBV. The AGYW instructors trained fellow students in 9 cohorts (N=231) over 8 months (March-October 2024). We sampled 5 training cohorts (*n*=138) to measure the change in knowledge and attitude through pre/post-test, focused-group discussions with AGYW, and key informant interviews with teachers. We identified 21 peer educators and mentored them to teach their peers. We supported disclosures and established referral networks for survivors of SGBV.
Results: The immediate knowledge of SGBV prevention increased by an average of 200% (pre-test 31%, post-test 93%). The average change in attitude was 83% (pre-test 52%, post-test 96%). While the participants had 84% awareness of SGBV in their community, their empowerment self-defense skills for preventing SGBV was 17% at baseline. The post-test improved to 93% with an average change of 433%. 2 AGYW instructors volunteered to educate the members of the Niger State Association of the Deaf on SGBV prevention. 21 peer educators taught their peers sexual violence prevention skills.
Conclusions: The No Means No is an effective disability-inclusive HIV prevention intervention that reduces SGBV among PWD. This study recommends scaling up the No Means No and integrating disability-inclusive HIV prevention services into healthcare systems to improve HIV prevention.

EP1022

Transgender and MSM Beauty Pageants as an advocacy initiative to promote HIV awareness and testing - the experience of the Rajah Kay Diwata (King and Goddess) Program in the Philippines

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Background: The Western Visayas Region in the Philippines is ranked 6th in the country based on HIV prevalence. More than 85% of new cases are due to sexual transmission mostly occurring among males who have reported same-sex higher risk sexual behaviors. MSM and Transgender Women have the highest risk for HIV in the Region.

To promote HIV awareness, prevention and testing among this key population groups, the FPOP Iloilo Chapter, has initiated the Rajah Kay Diwata (King and Goddess) HIV Advocacy Program that uses Pageantry and Beauty Contests to deliver HIV messages, drive PrEP enrollment and promote HIV Testing uptake.

Description: Started in 2018, the Rajah Kay Diwata or RKD HIV Advocacy Pageant and Outreach Program is a 4 to 6 months long initiative that bring together candidates coming from the Transgender and MSM Communities of Iloilo Province, to become actively involved in the HIV and wellness advocacy. Their advocacy activities also encourage them to recruit or refer KP clients from among their peers for HIV testing.

These activities culminate in a major beauty pageant event where a new set of Rajah Kag Diwata winners are declared. The winners will then start a yearlong commitment to continue working on the AIDS advocacy as HIV Ambassadors.

Lessons learned: Since its inception, the RKD Program has produced a roster of more than 100 peer educators who come from their pool of candidates. They outreach work of the RKD contestants has been documented to lead to increased HIV testing uptake as well as increases in PrEP enrollment among TG and MSM communities, especially among young people.

Conclusions/Next steps: Majority of those who stayed on as volunteer peer educators after their reign as the RKD winners, expressed that their participation in the RKD program did not only boost their self-confidence, but has also provided them with a new set of friends that serve as their strong base of support in continuing their HVI advocacy work.

It is a common recommendation for RKD to be continued as a significant event every year and also be expanded towards a wider reach among TG and MSM communities in the Western Visayas Region.

Integration of HIV services with other health and support services

EP1023

Best practises enhancing horizontal integration of services for communicable(CDs) and non-communicable (NCDs) diseases in Mutuini Hospital (MH) in Maternal and Child Health (MCH) department since May 2024

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Background: WHO recommends horizontal integration of healthcare services because of affordability, sustainability and effectiveness. Notably, nonintegration of healthcare services weakens healthcare system. In MH, various partners; CIHEB, DREAMS, Marie Stopes & community health volunteers (CHVs) supporting services aligned to MCH have been provided for space within the MCH department since May 2024 and are all supervised by MCH nurse in charge for sustainability and coordination.

Description: Previously, these partners worked independently which culminated to numerous cases of pre-eclampsia, HIV seroconversion in PNC after initial negative HIV result, anaemia in labour, missed clinic appointments, data inconsistency and clients rejecting some services that involved moving to different departments.

This abstract illustrates how horizontal integration has enhanced fight against CDs and NCDs in MH at MCH department in pregnant and breastfeeding clients since May 2024**:** Horizontal integration of services approach has been used to render MCH services to gravid and lactating mothers from May 2024 to present (November 2024).

Lessons learned: Active uptake of available services positively impacted client outcomes. Out of 6595 clients, 650 (10%) were referred by CHVs and submitted referral forms at the CHV's desk at the waiting bay.

320 (5%) adolescent girls and young women bellow 24 years were enrolled for DREAMS services to get monthly supply of sanitary towels, artisan course trainings, free family planning services by Marie Stopes and 85 (3%) clients who reported gender based violence got minimum package of care.

6595 (100%) were done for antenatal profile to screen for syphilis, HIV, Hepatitis B, diabetes mellitus, anaemia, hypertension and all were triaged.

3045 (46%) First ANC clients were tested for HIV and 3028 (95%) had HIV negative result, out of which 260 (8%) high risk clients accepted PrEP while 20 (0.7%) who were newly diagnosed with hypertension were linked to special clinic. 8 (0.3%) had Hepatitis B and were linked to care and treatment. 150 (5%) had HB <11g/dl and were treated.

17 (0.5%) of clients who got positive HIV test results were linked to care and treatment by CIHEB. All services were entered into KeEMR real time.
Conclusions/Next steps: Horizontal integration of services can enhance fight against communicable diseases and non-communicable diseases due to affordability, sustainability, good client outcomes and effectiveness.

EP1024

Care pathway for newly diagnosed clients living with HIV/PTB in South Africa

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Background: Globally, approximately 39.9 million people were living with Human Immunodeficiency Virus (HIV) in 2023. In South Africa, an estimated 8.0 million people were living with HIV in 2024. While the number of People Living with HIV (PLWH) is increasing every year, they become prone to developing other co-morbidities such as Pulmonary Tuberculosis (PTB). The PTB is a common opportunistic disease in PLWH. South Africa is burdened with HIV/PTB diagnosis. The literature further reports that the HIV/PTB is poorly integrated in the Primary Health Care (PHC). However, it remains unclear if there is a care pathway focusing on the newly diagnosed clients living with HIV/PTB in PHC clinics. Therefore, the aim of this study was to develop a care pathway for newly diagnosed clients living with HIV/PTB in the PHC clinics in South Africa.
Methods: The National Council on Mental Wellbeing seven (7) steps underpinned the care pathway development. Out of the seven (7) steps, five (5) were applied. A multiphased approach was employed. Phase One was a scoping review, phase Two and phase Three were qualitative studies. The design was exploratory, descriptive and contextual. The data was analysed using Tech's eight steps. The data was later integrated at findings and interpretation level. The data sets from the three (3) phases informed the development of the care pathway as phase Four.
Results: The care pathway was developed for the health care team caring for clients living with HIV/PTB in the PHC clinics as end users. The care pathway follows a nine (9) stepwise approach for managing newly diagnosed clients living with HIV/PTB. The care pathway was later reviewed by eleven (11) expert panel members within PHC and all the suggestions made were amended and incorporated in the final care pathway.
Conclusions: An integrated intervention is needed by the health care team working in the PHC clinics to better manage newly diagnosed clients living with HIV/PTB. In this study, a care pathway was developed for the health care team working in the PHC clinics so that they manage newly diagnosed clients living with HIV/PTB. This care pathway developed is the first of its kind in the PHC clinics. The care pathway has a potential to improve the health outcomes of newly diagnosed clients living with HIV/PTB in the PHC clinics. Future research is needed on implementation and testing of this care pathway in the rural PHC clinics.

EP1025

Integration of healthcare services for HIV and non-communicable diseases in sub-Saharan Africa: a scoping review of randomized controlled trials and protocols

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Background: Stand-alone HIV clinics in sub-Saharan Africa (SSA) have effectively expanded antiretroviral therapy, enabling the transformation of HIV into a chronic condition. However, the rising prevalence of non-communicable diseases (NCDs) in SSA, coupled with the higher risk of NCDs like cancers, hypertension, and diabetes among people living with HIV, necessitates provision of integrated health services for HIV and NCDs. This scoping review examines current HIV-NCD integration models and measured outcomes.
Methods: We searched Embase, MEDLINE, Web of Science, Global Health, and Africa Index Medicus for randomized controlled trials (RCTs) and RCT protocols on HIV-NCD healthcare integration in SSA, published in English or French from January 1, 2010, to October 1, 2024. Data on study design, intervention details, outcomes, findings, and locations were extracted to identify patterns, research gaps, and provide a comprehensive overview of integrated service models.
Results: Out of 5,266 identified studies, 25 were included, consisting of 8 RCTs and 17 RCT protocols from 10 SSA countries: Botswana, Cameroon, Kenya, Malawi, Mozambique, Nigeria, South Africa, Tanzania, Uganda, and Zimbabwe. RCTs started between 2013 and 2024, with durations ranging from 1 to 7 years (mean 3.08 years). Included studies focused on integrating health services for HIV with depression (9 studies), hypertension (6), hypertension and diabetes (4), substance use therapy (3), and (cervical) cancer (3). Integration mostly occurred in primary care clinics (13 studies) and stand-alone HIV clinics (4 studies).
Common outcome measures included ART adherence, retention in HIV care, and HIV viral suppression, though metrics varied widely by disease outcome and care-cascade step.
Conclusions: While several RCTs on HIV-NCD integration exist, heterogeneity in models, settings, and outcome measures limits comparability. The focus on HIV out-

comes and diverse metrics highlights the need for standardized measures to assess integration effectiveness. Additionally, the short duration of most trials constrains long-term evaluation of effects, underscoring the need for extended timelines to fully understand the potential and sustainability of HIV-NCD integrated care.

EP1026

Integrating HIV testing into TB community-based programs for pregnant women: a model for dual disease screening and improved maternal health – KNCV Nigeria experience

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Background: Tuberculosis (TB) and HIV remain leading causes of morbidity and mortality among pregnant women in high-burden settings. Integrating HIV testing into community-based TB programs offers a unique opportunity to address these dual epidemics while improving maternal and child health outcomes.
This abstract highlights the experience of KNCV Nigeria in implementing an integrated TB/HIV screening model for pregnant women.
Methods: The initiative was piloted across KNCV Global fund supported states, targeting pregnant women attending antenatal care (ANC) at unconventional centres and those who are at home. Key components included:

1. Training community TB/HIV workers (CTHWs) on dual TB and HIV screening protocols.
2. Incorporating HIV rapid testing into routine TB screening activities.
3. Establishing referral linkages for confirmatory diagnosis and treatment for TB and HIV-positive cases.
4. Data on screening uptake, positivity rates, and linkage to care were collected and analyzed from January-December,2024.

Results:

- A total of **3,500 pregnant women** received both TB and HIV testing through the integrated program.
- **HIV positivity rate** among those tested was **4.5%** (n=158), which aligns with regional HIV prevalence data but highlights cases that may have gone undiagnosed without integration.
- **Linkage to HIV care** was successfully achieved for **95% of HIV-positive women**, with 150 women initiating antiretroviral therapy (ART) within two weeks of diagnosis.
- Qualitative feedback from participants indicated that **85% found the integrated approach more convenient** and reported a **strong preference** for comprehensive services within one visit.

Conclusions: Integrating HIV testing into TB programs for pregnant women is effective in identifying undiagnosed HIV cases and linking women to care, significantly improving maternal health outcomes in high-risk communities.
This approach has high acceptance among participants and enhances the efficiency of healthcare delivery in settings where accessibility is limited. Scaling this model could contribute to more holistic maternal health services and advance efforts toward eliminating mother-to-child transmission of HIV.

EP1027

Perspectives on integration of chronic disease care with LAI-ART injection visits

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Background: Long-acting injectable (LAI) anti-retroviral therapy (ART) for treatment of HIV entails more frequent healthcare interactions than standard care, offering an opportunity to optimize the monitoring and management of comorbid chronic diseases.
In this qualitative study, we explored decision-making involved in LAI-ART uptake and assessed perspectives towards a bundled care model whereby services addressing non-HIV health conditions could be incorporated into LAI visits.
Methods: We conducted in-depth interviews with 8 people on LAI-ART and 16 people on oral ART. People with HIV (PWH) who are virally suppressed, have one or more common chronic medical conditions, and are seen at Duke University clinics were eligible to participate. We used the Transtheoretical Model of Change to guide the interviews and analyzed the data using inductive thematic analysis.
Results: Among those on oral ART, participants staged themselves in the pre-contemplative (n=8), contemplative (n=6), or planning (n=2) phase of LAI uptake. Factors facilitating LAI-ART uptake included convenience, pill burnout, and poor tolerability of oral ART, while barriers to uptake included frequent clinic visits, dislike of injections, inadequate knowledge, and stability of current care. Many participants said that their HIV provider plays an important role in their consideration of LAI. All participants on LAI expressed satisfaction with their treatment.
Despite the diversity in perspectives on LAI-ART as a personal treatment choice, nearly all participants viewed a bundled care model to be potentially beneficial, though some expressed that it would depend on the service(s) provided. The integration of mental health services and social work services to LAI visits were viewed as helpful for most participants, as many described these as gaps in their current care. Services addressing cardiovascular disease risk through blood pressure management were also viewed favorably by many, though others felt their blood pressure was optimized already. Several participants on oral ART expressed that adjunctive services offered during LAI visits might influence their decision-making in favor of uptake.
Conclusions: Integration of chronic disease management and social support services into bimonthly LAI-ART visits is perceived as both acceptable and beneficial to PWH. Future research should focus on implementation strategies for leveraging LAI visits to optimize chronic disease outcomes.

EP1028

Adaptation of the Transitional Care Model to address gaps in post-hospitalization care among adults with HIV/non-communicable disease comorbidity in Malawi

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Background: Despite antiretroviral therapy (ART), African hospitals face high admissions of people with HIV (PWH) due to advanced HIV and comorbid non-communicable diseases (NCDs). A significant care gap lies in inadequate discharge planning and post-hospitalization support. To address this, we collected data to adapt the US-based Transitional Care Model (TCM) in Malawi. TCM, a nurse-led intervention, supports transitions from inpatient to home care to improve post-discharge outcomes and reduce readmissions or mortality among high-risk adults. Our objective was to collect formative qualitative data to guide the adaptation of the TCM for PWH hospitalized with NCDs in Malawi.

Methods: Guided by the PRISM framework, we purposively selected 50 participants for in-depth interviews in Lilongwe, Malawi: 20 health workers, 10 patients with HIV/NCD comorbidity who were recently hospitalized, 10 caregivers, and 10 key informants. Interviews were conducted in Chichewa and English, audio-recorded, transcribed, and translated into English. Data were coded using Nvivo 14 and analyzed through thematic analysis.

Results: The TCM highlights key elements for bridging inpatient and post-discharge care, that includes coordination between inpatient and outpatient services, nurse-patient relationships, continuity of care, and engaging family caregivers. Our findings revealed fragmented discharge planning and post-hospital care, leading to poor patient follow-up. Effective communication from admission between health care workers and patient/caregiver can mitigate these issues. Early discharges from bed shortages, patient/caregiver fatigue, or financial strain were prominently reported as a contributor for poor post discharge outcomes. Post-discharge challenges include persistent symptoms due to early discharges, financial difficulties, and insufficient medication, worsened by comorbidities, which hinder income generation and increase the burden of multiple medications and appointments. Home-based care was viewed positively for its convenience, cost savings, and morale-boosting effects. It also offers better patient assessment for at risk of readmission/poor outcomes. Phone follow-ups and hotlines were suggested as viable tools to improve healthcare access and support.

Conclusions: These findings highlight the critical need for discharge planning and post-discharge care for patients with chronic and complex conditions. Lessons from early discharges underscore the importance of follow-up in home settings. The TCM appears feasible for Malawi, promoting coordinated care and improved health outcomes.

EP1029

Optimizing cervical cancer screening among women living with HIV in 2024: a strategy to improve cervical cancer screening among women living with HIV in Eastern Province, Zambia

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Background: In 2022, cervical cancer emerged as one of the leading cancers affecting women globally, with nearly 660,000 new diagnoses and around 350,000 fatalities. FHI360 provides technical assistance to Eastern Province Health Office (EPHO) through U.S. Centers for Disease Control and Prevention (CDC) under the President's Emergency Plan for AIDS Relief (PEPFAR) funding. Women Living with HIV (WLHIV) aged 15 years and above are provided routine cervical cancer screening and treatment services across 15 districts of Eastern Province, Zambia.

Description: A total of 70,432 WLHIV aged 15 years and above were active on HIV treatment by September 2024 in Eastern Province. The province employed a combination strategy to ensure that all eligible WLHIV are screened for cervical cancer by Visual Inspection with Ascetic Acid (VIA) or Human Papillomavirus (HPV) DNA testing.
This strategy includes:
1. Optimizing appointment system by Cervical Cancer Champions using an appointment system that ensures all eligible women are identified, scheduled and message reminders are sent;
2. Targeted outreach services in zones;
3. Increase number of health care workers trained in combined VIA, HPV and Loop Electrosurgical Excision Procedure (LEEP) package to cumulative total of 280 (75 Health Care Workers (HCWs) in 2024 compared to 60 in 2023), and;
4. Redesigning client flow to integrate cervical screening within ART setting.

Lessons learned: A total of 18,945 WLHIV were screened in 2024 using either VIA or HPV testing, a 15% increase from the 16,488 screened in 2023. Of the 18,945 total screened in 2024, 17,413 (92%) were screened using VIA, while 1,532 (8%) were screened using HPV testing.
Further, of the 17,413 VIA-screened, 501 (2.9%) screened VIA positive, of which 121 (24%) were referred for further investigation as were suspected to have cervical cancer. Of the total 1,532 that were screened using HPV testing, 269 (18%) tested HPV positive.

Conclusions/Next steps: The combination of strategies led to a 15 % increase in cervical cancer screening coverage among the WLHIV in Eastern Province within a year. But there is room to continue increasing HPV screening. These successful strategies can be expanded to other areas.

EP1030

Uptake of community blood pressure monitoring and associated factors among people living with HIV and hypertension accessing integrated care at selected HIV clinics in Uganda

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Background: World Health Organization recommends Community-based blood pressure monitoring (BPM) for diagnosis and management of hypertension. However, there is limited data on the uptake and factors associated with community BPM among people living with HIV (PLHIV) and hypertension in Uganda.
This study aimed to determine the uptake of, and factors associated with community BPM among PLHIV and hypertension receiving care at selected HIV clinics.
Methods: A cross-sectional study was conducted between May and July 2024 at three HIV clinics participating in an implementation trial (NCT05609513) in the Kampala and Wakiso districts. A total of 408 participants, proportionally distributed across the clinics, were randomly selected and surveyed using a pretested questionnaire. Descriptive statistics were performed, reporting means or medians with standard deviations (SD)/interquartile ranges (IQR) and frequencies with proportions for numerical and categorical variables, respectively.
Factors associated with community BPM uptake were assessed using bi-variable and multivariable modified Poisson regression. Data analysis was performed using STATA 14.1
Results: Of the 408 participants, 67.7% were female, mean age of 50.1 years (SD=10.7). All participants had been on HIV and hypertension medications for a median duration of 5 years (IQR: 3.5–7.2) and 1 year (IQR 1–1), respectively. Community BPM uptake was 27% (95% CI: 23.3–32.0). Among those monitoring their BP in the community, 68.6% did so at private clinics, 70% at pharmacies, 15.2% at public health facilities, and 5.4% self-monitored their BP.
Multivariable analysis indicated that the uptake of community BPM was associated with receiving three antihypertensive medications (adjusted prevalence ratio [aPR]: 2.2, 95% CI: 1.1–4.4), receiving advice from healthcare providers (aPR: 8.7, 95% CI: 3.7–20.5), receiving feedback on BP monitoring (aPR: 33.3, 95% CI: 4.1–268.6), and owning a BP device (aPR: 2.2, 95% CI: 1.3–3.5).
Conclusions: Community BPM uptake among PLHIV and hypertension was low. However, individuals receiving healthcare provider recommendations and feedback, owning BP devices, or on three antihypertensive medications were more likely to engage in community BPM.
To improve uptake and ensure continuity of care, targeted interventions such as healthcare provider counseling, feedback mechanisms, and facilitating access to BP devices are recommended.

EP1031

Understanding the burden of depression among persons living with HIV (PLHIVs) attending antiretroviral therapy (ART) clinics in Nigeria

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Background: Mental health conditions such as depression can undermine the management of PLHIVs. Conversely, the psychological toll of living with HIV can worsen mental health conditions, creating a self-reinforcing vicious cycle that negatively impacts health and wellbeing if left unaddressed.
This study examined the burden of depression among PLHIVs attending ART clinics in Nigeria, with the aim of informing the design of more holistic and integrated care approaches.
Methods: A cross-sectional study was conducted using data from routine screenings of PLHIVs attending 17 AIDS Healthcare Foundation (AHF) supported ART clinics in 4 different States in Nigeria. The screenings, which were conducted over a period of 6 months in 2024, utilized the PHQ-9 tool to evaluate the frequency of depressive symptoms over the previous two weeks.
Scores ranged from 0 to 27, categorizing depression into 5 levels: no depression (0-4), mild depression (5-9), moderate depression (10-14), moderately severe depression (15-19) and severe depression (20-27).
Statistical analysis was performed using Python to summarize the data, and chi-square test was applied to examine the relationships among respondents' variables.
Results: Among 1,157 PLHIVs screened, 341 (29.5%) were males and 816 (70.5%) females, with an average age of 38 years (±12). The majority, 948 (81.9%), were old clients (>6 months in care), while 209 (18%) were newly enrolled.
Overall, 134 (11.6%) had some form of depression: 88 (7.6%) mild, 30 (2.6%) moderate, 12 (1.0%) moderately severe, and 4(0.4%) severe. Newly enrolled clients exhibited significantly higher depression rates (27.8%) compared to old clients (8.0%), with 75% of severe depression cases found among newly enrolled individuals.
Depression rates among women (11.8%) were slightly higher than men (10.9%), and all moderately severe or severe cases were female. Chi-square and logistic regression analysis revealed a significant relationship between depression and being newly enrolled ($p < 0.001$), but no significant association with gender ($p = 0.222$) or age

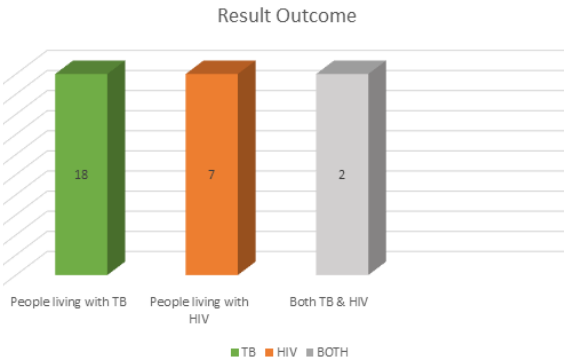
group (p = 0.147). The PHQ-9 question "Feeling down, depressed, or hopeless?" was identified as the most predictive of depression.
Conclusions: The study highlights notable burden of depression among PLHIVs in Nigeria and these findings underscore the critical need for integrated mental health services within HIV care, with a focus on early screening and targeted support for newly diagnosed individuals.

EP1032

Integrated HIV screening and portable digital xray (PDX) intervention: insights from world AIDS day 2023 in Baure LGA IDP camps of Katsina state, North West Nigeria

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Background: Over a decade of insurgency, mass displacement, and the destruction of basic infrastructure in Northwest Nigeria. Internally displaced persons (IDPs) suffering from lack of basic hygienic conditions, malnutrition, and disease live in camps or are hosted by communities in the region, where the conflict has contributed to a massive destruction of health facilities. Infectious diseases like tuberculosis (TB) and HIV are especially difficult to address under such conditions, and IDPs are vulnerable to both.
Description: The portable digital xray with computer aided detection for TB (CAD4TB) was deployed to Baure LGA to screen for TB and a focal person for HIV was included in the team to screen for HIV alone.
The clients' chest xray was taken for TB screening with the help of CAD4TB and nasal collection or blood sample was also collected for HIV screening by the HIV screener using rapid diagnostic kit. Presumptive client's sputum was collected in sputum cups and tested for TB using Genexpert machine while the HIV tester uses the rapid test kit to screen.



Lessons learned: Between December 4-8, 2023 ACF was conducted in 5 IDPs camps and 9 host communities in Baure LGAs of Katsina state. A total of 504 clients were screened for both TB and HIV, 323 (55.6%) women and 181 (44.4%) men, Identified 52 presumptive for TB and all samples were evaluated.
We detected 18 PLTB, 7 PLHIV, 2 coinfected and were all linked to TB therapy and antiretroviral treatment respectively via the local government focal persons. Through this approach, TB and HIV case notification increased by 12% and 8% respectively allowing for timely intervention, better treatment outcome and control.
Conclusions/Next steps: This study calls for upscale to greatly increase case notifications, It is crucial to adopt such approaches so as to provide sustained solutions to these and other health crises among vulnerable populations.

EP1033

Integrating HIV, TB, STIs, and hepatitis services for sex workers, PLHIV, and co-morbid populations: a one-window approach to enhance dignified, stigma-free, and holistic care delivery

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Background: Sex workers, people living with HIV (PLHIV), and individuals with co-morbidities such as TB, STIs, and Hepatitis B & C often face fragmented healthcare systems, stigma, and discrimination. To address these challenges, Active Help Organization (AHO), in collaboration with the District Health Authority Okara, piloted a one-window service delivery model in Okara, Pakistan, from January to June 2020.
This model aimed to integrate HIV, TB, STIs, and Hepatitis services under one roof, ensuring accessible, dignified, and stigma-free care for marginalized populations.
Description: The program operated through strategically selected healthcare facilities in Okara, targeting sex workers, PLHIV, and TB-affected communities. Services included integrated testing, treatment, and prevention, with additional baseline services such as PEP, and Hepatitis B vaccinations.
Key interventions included provider training to ensure rights-based care, community engagement to reduce stigma, and robust referral systems for specialized services. The program was designed to streamline access, enhance patient experience, and improve health outcomes.
Lessons learned: The pilot demonstrated that integrated service delivery significantly improves accessibility and utilization. Testing rates for HIV, TB, and Hepatitis increased by 40%, while patient drop-out rates decreased by 30% due to co-located services. Patients reported high satisfaction with respectful and stigma-free care.
Community engagement and interdepartmental coordination were identified as critical factors in the program's success.
Conclusions/Next steps: The findings underscore the importance of holistic and stigma-free care models in addressing the needs of vulnerable populations. Expanding this model to other districts could strengthen national health responses.
Future steps include scaling the program, advocating for integrated health policies, and leveraging digital tools for outreach and monitoring. This pilot provides a repli-

cable framework for delivering comprehensive, equitable healthcare, advancing global goals for HIV prevention, treatment, and care.

EP1034

Navigating implementation challenges for preventive lung health assessments at a publicly funded antiretroviral therapy center for people living with HIV in Pune, India

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Background: People living with HIV (PLHIV) are at higher risk of lung morbidities, making lung health assessments (LHA) a potentially important measure for secondary prevention. Despite publicly funded settings being the primary source of healthcare for most PLHIV in low-and-middle-income countries (LMICs), implementing LHA within these settings poses unique challenges.

Here, we outline key challenges from an LHA conducted at BJ Government Medical College, Pune, India, to inform future efforts.

Description: Using a pragmatic non-randomized approach, 397 PLHIV were enrolled from January 2023 to January 2024. Participants completed computer-assisted questionnaires and underwent high-resolution chest computed tomography (HRCT) and spirometry under the supervision of trained study staff.

Implementation challenges were systematically documented and thematically categorized using the Consolidated Framework for Implementation Research (CFIR). Participant feedback on study procedures was collected and integrated with thematic findings to identify barriers and facilitators.

Lessons learned: Challenges and facilitators were identified across CFIR's five domains.

1. Within Intervention Characteristics (attributes of the LHA itself; 0.3%), procedural complexities highlighted the need for well-defined workflows and contingency planning, underscoring the importance of staff training and workflow optimization through a time-and-motion study.
2. Inner Setting (organizational context and readiness for LHA implementation; 9.6%) revealed inefficiencies such as multitasking, limited staff availability, and equipment malfunctions, despite effective team coordination and escalation protocols.
3. Outer Setting (external influences such as patient needs and socio-cultural factors; 89.4%), patient delays and refusals due to logistical and cultural barriers emphasized the need for patient-centered strategies: aligning study visits with routine healthcare visits minimized disruptions, though logistical hurdles persisted despite telephonic reminders and travel reimbursements.
4. Characteristics of Individuals (participants knowledge, beliefs, and abilities; 0.6%) indicated low engagement and literacy challenges, suggesting visual aids to improve comprehension.
5. Process domain (steps involved in LHA implementation; 0.1%), regular reviews with the study coordinator supported task coordination; however, documentation gaps and overlapping priorities underscored the need for structured management training.

Conclusions/Next steps: Addressing multi-level barriers through tailored strategies, including enhanced patient engagement, structured staff training, and workflow optimization, could improve LHA implementation.

Findings emphasize the importance of aligning implementation strategies with the realities of LMIC public health systems to support LHA delivery.

EP1035

Monitoring the rates of cervical lesions by age and previous screening status among women living with HIV in Eswatini military clinics

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Background: Women living with HIV (WLHIV) are at increased risk for persistent human papilloma virus infection and invasive cervical cancer. Eswatini adopted WHO's guidelines to screen and treat cervical cancer among WLHIV on antiretroviral therapy (ART).

Description: Since November 2019, with Department of Defense HIV/AIDS Prevention Program (DHAPP) funding, URC introduced cervical cancer screening at all 10 Umbutfo Eswatini Defense Force (UEDF) clinics. URC equipped and trained healthcare workers to rapidly scale up annual cervical cancer screening using visual inspection with acetic acid (VIA) for WLHIV aged 25-49 years and pap smear screening for women over 50 years old, aligned with Eswatini screening protocols. URC supported UEDF health staff to line list eligible persons, integrate cervical cancer screening education into ART refill sessions, conduct clinical mentoring, and ethically use cameras for lesion classification in remote facilities. The screenings and outcomes were documented in electronic medical records, with positive cases referred to Ministry of Health treatment sites.

Lessons learned: Between October 2023 and September 2024, with URC's support, a total of 947 screenings were conducted across the 10 UEDF clinics. VIA screenings accounted for 81.3% (770/947), and pap smear screenings accounted for 18.7% (177/947). First-time screenings were at 20.0% (189/947), re-screenings were at 77.8% (737/947), and follow-up screenings after precancerous lesion treatment were at 2.2% (21/947). The overall prevalence of precancerous lesions was 5.1% (48/947), with 2.6% (5/189) among first-time screenings, 5.6% (41/729) among re-screenings, and 10.5% (2/19) among post-treatment follow-up screenings. The majority, 89.6% (43/48), were aged 20-49 years, while 10.4% (5/48) were above 50 years old.

Conclusions/Next steps: Rescreened individuals were 2.2 times more likely to have a precancerous lesion compared to first-time screeners, highlighting the need for enhanced mentoring when initiating cervical cancer screenings at new sites.
Additionally, the recommended 12-month screening interval may be too long for WLHIV, suggesting a need to reduce to shorter screening intervals and adopt innovative approaches to improve first-encounter screening quality, such as using more sensitive stains. The project will continue treating all women who screen positive and linking those with invasive lesions to national referral clinics.

EP1036

Geographic disparities and predictors of positive cervical cancer screening outcomes among women living with HIV in Nigeria: a retrospective analysis

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Background: Cervical cancer is the second most common cancer in Nigeria and the second most common cause of cancer deaths among women aged between 15–44 years. According to the World Health Organization (WHO), women living with HIV (WLHIV) are six times more likely to develop the disease.
Fortunately, understanding the predictors of screening positivity can inform targeted interventions to improve early detection and reduce morbidity and mortality in Nigeria.
Methods: A retrospective study analysed de-identified data of 229,502 WLHIV screened for precancerous lesions across 537 facilities in 17 states between January 2019 and September 2024. Logistic regression was used to identify predictors, considering variables such as geographic location, population setting (urban or rural), age, antiretroviral therapy (ART) duration, and screening type (first-time screening, follow-up after previous negative or suspected cancer, or post-treatment follow-up). Positivity rates were expressed per 1,000 WLHIV screened.
Results: Overall, 1.2% (2,858) of WLHIV tested positive for precancerous cervical lesions (median age: 37 years, IQR: 31-42). Positivity was highest among women aged 50-54 years with over twice the odds of screening positive (OR = 2.21, p = 0.005) and in urban settings (18/1,000 vs. 4/1,000 in rural; OR = 1.70, p < 0.001).
Geographic disparities were significant, with Taraba State reporting the highest (111/1,000; OR = 7.6, p < 0.001), followed by Zamfara (39/1,000; OR = 2.7, p < 0.001) and Lagos (23/1,000; OR = 1.5, p < 0.001). The duration of ART was not found to be significantly associated with the likelihood of testing positive for precancerous lesions. (OR = 1.0003, p = 0.3845). Follow-up after a prior positive result had the highest positivity rate compared to other screening types (30/1,000; OR = 1.98, p = 0.009).
Conclusions: Urban settings, prior positive results, age, and certain states such as Taraba, Zamfara, and Lagos were significant predictors for screening positive for cervical cancer.
These findings underscore the need for geographically targeted screening and follow-up programs to optimize early detection. Further research is essential to investigate the role of ART in reducing cervical cancer risk.

EP1037

Identification and prioritization of barriers and ranking of strategies for depression screening in adolescent HIV clinics in Kenya

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Background: Holistic care for Adolescents and youth living with HIV (AYH) should include screening and care for mental illnesses. However, gaps in implementation of screening exist. We piloted novel methods developed by the University of Washington IMPACT Center (rapid evidence review and barrier prioritization) to identify barriers and strategies to improve depression screening for AYH in Kenya.
Description: Two researchers in Kenya conducted a rapid review of published literature (*PubMed and Web of Science*) on barriers of screening and strategies to enhance screening in HIV care clinics for AYH in developing countries. A 2-day stakeholders' workshop with 11 participants drawn from Nairobi City County health department and HIV care facilities validated the barriers from literature and identified additional barriers. The barriers were prioritized across 6 domains (Likert scores: 0-3), with weighting (0-1) as follows: importance (1), frequency (0.5), duration (0.25), addressability (0.75), timing (0.5) and equity (0). Weighted means were multiplied for final scores. Ranking of strategies to address priority barriers was on impact and feasibility, each on a Likert score of 0-3, with means multiplied for a final score.
Lessons learned: Priority barriers identified were [1] Gaps in provider knowledge on depression screening (mean score: 5.7), [2] Gaps in provider knowledge of mental illnesses (5.2), [3] Stigma of mental illness among youth (4.3), [4] Heavy provider workload (3.7), [5] Complicated referral process (3), and [6] Poor client attitude towards mental health (3). The top ranked strategy to address provider knowledge gaps were: [1] On-job training of providers specifically on depression screening during continuous medical education sessions at facilities (mean score: 6.5), and [2] Formation of multidisciplinary teams where providers review cases of mental illness with a specialist to improve knowledge on mental illnesses (6.9). Using youth support groups was preferred to demystify mental ill-

ness among youth and improve their attitudes towards mental health (6.3). Designated clinic days, and development of county-specific referral protocols were other top-ranked strategies.

Conclusions/Next steps: The stakeholder-led barrier prioritization process informed by a rapid evidence review was acceptable and effective in identifying priority barriers, and the optimal strategies to improve mental health screening implementation outcomes, to be implemented in ongoing programs.

EP1038

Facilitators and barriers to mental health service integration for women with HIV in outpatient care: insights from healthcare providers in Malaysia

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Background: Women with HIV (WWH) face mental health (MH) conditions, impacting antiretroviral adherence and retention in care. In low-and-middle-income settings, integrated HIV-MH services are uncommon, despite evidence of improved outcomes.

This pre-implementation study explored facilitators and barriers amongst healthcare providers (HCPs) to integrating MH services in an HIV clinical centre in Malaysia.

Methods: We conducted N=7 focus group discussions at Universiti Malaya Medical Centre from August 2023–September 2024 with HCPs from Infectious Diseases (ID) and Psychological Medicine (Psy) across various roles: residents (ID=2, Psy=2), specialists (ID=3, Psy=2), consultants (ID=1, Psy=1), psychologists / counselors (ID=3, Psy=2), clinic nurses (ID=2, Psy=2), support staff (ID=3, Psy=2), and nursing heads (ID=2, Psy=1). Using a semi-structured interview guide based on the CFIR2.0, we explored facilitators and barriers to integrating MH screening and linkage to care into outpatient HIV services for WWH. Thematic analysis was conducted in Dedoose.

Results: A total of 28 HCPs (ID=16, Psy=12, 78.5% female) participated, including 26(92.9%) with >5 years of clinical experience. Three themes emerged:

Women-Centered Factors, Mental Health Perceptions and Engagement, and **Organizational Readiness.**

Facilitators included HCPs' recognition of the benefits of integrating MH services within ID clinics and willingness to be trained to co-manage MH by Psychological Medicine. However, barriers included the lack of standardized management algorithms and care pathways, as HCPs expressed a need for a clear framework to guide integration efforts. Additional barriers were staff shortages, space limitations, time constraints, junior clinicians' lack of ownership for MH screening, and feasibility and sustainability of onsite psychiatric services. HCPs also highlighted that patriarchal norms and reserved communication styles among WWH create challenges in addressing MH needs, as they may hinder open discussions and timely intervention. Supporting quotes are presented in the table.

Theme	Quote	Subtheme
Women-Centred Factors	Barrier: "And the women, the ones who are usually a bit more reserved. You know, they're usually the wives of patients already with HIV. So, when they come for the consultation, it's their husbands or relative talking on behalf for them.." (Resident, ID Unit, <5 years experience [exp.])	Patriarchal norms and communication
Mental Health Perceptions & Engagement	Facilitator: "I think that in this particular population, if we were able to integrate the mental health service in ID clinic, would really help them to get easier access." (Specialist, Psychological Medicine, >5 years exp.)	Benefit of Integrated services
	Barrier: "A lot of us do not regard this as our responsibility. What most of us would ask is how do you feel and if patients just brush it off, then we'll just let it go" (Resident, ID Unit, <5 years exp.)	Lack of ownership by clinicians
Organizational Readiness	Facilitator: "We have to be properly trained so that we have the knowledge to communicate with the patients" (ID Clinic Nurse, >5 years exp.)	Willingness to be trained
	Facilitator: "Why don't we train the ID doctors to prescribe? So that is also one of the training module that we plan." (Clinical Psychologist, Psychological Medicine, >5 years exp.)	Training support from Psychological Medicine
	Barrier: "So it would be very, very helpful if we have a structured way of approaching this. And then after that, if the patient has this, what can I do?" (Consultant ID Physician, >5 years exp.)	Lack of standardized tools and care pathways
	Barrier: "So, we'll be short of about 5 staff. So, I think we can't manage more clinic manpower" (Head Nurse, ID Clinic, >5 years exp.) "Now, we only have one clinical psychologist who is leaving and one counsellor. Which is me doing counselling in psych clinic. It's only me." (Counsellor, Psychological Medicine, >5 years exp.)	Human resource constraints
	Barrier: "There are a lot of advantages to having to do that (referring to having an onsite psychiatrist in the ID clinic), but I think the huge question is resource. Do we have enough people? Can we allocate the person to be there on the days you have your ID clinic? I think that's the main barrier" (Specialist, Psychological Medicine >5 years exp.)	Feasibility of onsite Psychiatric services
	Barrier: "From what I see, what happened to the rest of our integrated clinics like obesity, psychogeriatric, it's so hard after a few months. Because the commitment and what the people want to prioritise after that. Yes, initially they are very excited and but after that, it falls apart. (ID Specialist, >5 years exp.)	Sustainability challenges

Conclusions: Insights from HCPs highlight facilitators to leverage, such as willingness to be trained and barriers to overcome, like the lack of standardized frameworks, to implement tailored, integrated MH-HIV services that improve care outcomes for women.

EP1039

Effect of integrating hypertension care into HIV services on healthcare provider burnout and well-being

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Background: Burnout, characterized by emotional exhaustion, depersonalization, and diminished personal accomplishment, is a critical concern among healthcare providers (HCPs). While integrating HIV and hypertension services enhances person-centered care and provider satisfaction, it may increase responsibilities, potentially inducing burnout.
This study sought to assess the effect of integrating HIV and hypertension care on burnout and well-being among HIV HCPs in Wakiso and Kampala districts of Uganda.
Methods: A prospective cohort study nested within a stepped wedge cluster randomized trial evaluating two implementation strategies; "BASIC" entailing hypertension training, supply of hypertension medications and blood pressure machines, and the "PLUS" adds, enhanced hypertension training, differentiated service delivery for hypertension and performance feedback. Forty-three HCPs at 16 clinics completed the Copenhagen-Burnout-Inventory and WHO-5 well-being Index surveys at the beginning and six months after the intervention. Burnout was classified as: no burnout (<50%), moderate burnout (50%-74%), high burnout (75%-99%), and severe burnout (100%) while well-being was categorized as; good (≥50%), poor (29%-49%), and possible depression (<28%). We performed a difference-in-difference regression model to estimate intervention effects.
Results: Of 43 HCPs (BASIC-21, PLUS- 22), 56% were female; median age; 34 years [30-41]. At baseline, 5% of HCPs in PLUS and 6% in BASIC had burnout, which increased to 6% and 10%, respectively, after six months. Personal burnout declined from 35%(SD±12) to 31%(SD±17) and 34%(SD±12) to 29%(SD±14) in BASIC and PLUS, respectively.
Work-related burnout declined from 25%(SD±15) to 21%(SD±15) in BASIC and from 25%(SD±14) to 20%(SD±16) in PLUS. Client-related burnout decreased from 20%(SD±18) to 15%(SD±15) in BASIC while scores in PLUS were similar. Well-being increased from 74% (SD± 130) to75%(SD±19) in PLUS but declined from 70%(SD±14) to 67%(SD±18) in BASIC. Difference in difference estimators showed that personal and work-related burnout decreased over 6 months of PLUS implementation; however, the client-related burnout increased (coefficient: 4.4, 95% CI: -13.7,4.8; p=0.3).
Conclusions: Although HCPs in HIV care experienced some levels of burnout, integrating HIV and hypertension services neither potentiated burnout nor reduced HCPs' well-being. Contrary to HCP perceptions, integrating hypertension and HIV care is possible without exacerbating burnout.

EP1040

Using quality improvement to rapidly scale-up TPT among HIV-positive individuals on ART at Eswatini military clinics

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Background: People with HIV are 18 times more likely to develop tuberculosis (TB) than those without HIV infection. Tuberculosis preventive therapy (TPT) reduces TB deaths among HIV-positive individuals by up to 80% and increases survival for people living with HIV (PLHIV). The Eswatini 2018 HIV guidelines and 2019 TB guidelines recommended initiating TPT one month after starting antiretroviral therapy (ART). With Department of Defense HIV/AIDS Prevention Program (DHAPP) funding, URC assisted with the rollout of TPT at all 10 Umbutfo Eswatini Defense Force (UEDF) clinics in 2018, but from July to September 2019, TPT coverage was less than 20% of those eligible at the military clinics.
Description: To address the low TPT coverage, URC supported UEDF health staff to develop quality improvement (QI) projects at all the military clinics from October to December 2019, with a goal to rapidly scale up TPT initiation from 19% to 75% among PLHIV on ART. QI teams conducted a process flow gap analysis to inform interventions.
Tailored approaches were then implemented over a 36-month period, such as enhancing demand through TPT patient literacy and sensitization (with targeted messages for patients completing TB treatment); developing standard operating procedures; creating TPT eligibility patient lists and appointments; training healthcare workers; stocking isoniazid plus pyridoxine; and printing data collection registers and documentation.
Lessons learned: Following the implementation of the QI projects, TPT coverage improved from 19% (416/2,248) from July to September 2019 to 78% (2,787/3,568) from July to September 2022. The TPT completion rate improved from 14% (25/174) from July to September 2019 to 90% (2,384/2,637) from July to September 2022. Results were used to inform the TPT scale-up plan by replicating the strategies across all 10 UEDF sites. Improvements were observed in TPT documentation, stock management, healthcare worker confidence in providing TPT, and team cohesion.

Conclusions/Next steps: Applying QI methodology is effective in rapidly scaling up TPT among HIV-positive individuals, and shorter TPT regimens may further improve coverage. QI approaches develop organizational culture by enhancing member contributions, improving overall health care services, and institutionalizing continuous improvement processes.

EP1041

Client and provider perspectives on interventions for unhealthy alcohol use among people with HIV and TB in Southwestern Uganda

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Background: Unhealthy alcohol use among people with HIV (PWH) and TB hinders HIV viral suppression and TB treatment success in sub-Saharan Africa. Few studies describe client and provider perspectives on alcohol interventions in PWH and TB. We interviewed PWH in TB treatment and key informants in Mbarara, Uganda to explore their perspectives on current and future alcohol-related interventions at different levels of the socio-ecological model (SEM).

Methods: We conducted in-depth interviews between November 2023 and September 2024 with two groups: 13 PWH in TB treatment with hazardous alcohol use (Alcohol Use Disorders Identification Test (AUDIT) score>8); and 12 providers (including public health officials).

Interviews focused on the availability of existing resources for addressing alcohol use and ideas for other interventions. We coded transcripts using NVivo. Key themes were identified with a codebook thematic approach guided by the SEM.

Results: Clients were 38% female, mean age 38+8 years, 77% at risk of alcohol use disorder (AUDIT score>15); providers were 33% female, 67% with >10 years' experience. Individual level interventions identified included one-on-one counselling - currently available with limited follow-up and only for clients intoxicated at appointments. Pharmacotherapy was not generally available but was believed to be effective, although some expressed concerns about pill burden. At the interpersonal level, family counselling was suggested as a potential intervention, as participants mentioned that family input often influenced alcohol use/cessation.

Participants also indicated an interest in group counselling, which they felt could reduce key motivations for drinking: loneliness and boredom. At the clinic level, participants suggested having dedicated clinic days for providing alcohol interventions. Proposed community-level interventions included more specific public health messaging and outreach activities. At the policy level, participants mentioned a need for better education on alcohol-related harms. Cross-cutting challenges identified included resource limitations, stigma, and other barriers to implementation.

Conclusions: Effective interventions for unhealthy alcohol use among PWH in TB treatment require a multi-level approach. Future research should evaluate integrating alcohol interventions into HIV/TB treatment settings to improve HIV viral suppression and TB treatment success. More research on identifying and reducing barriers to and facilitators for these interventions is needed, with particular emphasis on sustainability.

EP1042

Integrating HIV and NCD care through one-stop clinics: a holistic approach to strengthening primary healthcare in Uganda

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Background: In Uganda, HIV care is primarily delivered through standalone antiretroviral therapy (ART) clinics, which also manage non-communicable diseases (NCDs). However, HIV-negative clients with NCDs depend on chronic care clinics, which have limited coverage outside higher-level facilities. As Uganda approaches HIV epidemic control, integrating HIV care with NCD management into primary healthcare has become a strategic priority. This project explored the impact of a one-stop integrated clinic model on health outcomes.

Description: The USAID Uganda Health Activity (UHA), in partnership with the Ministry of Health, piloted an integrated care model at three facilities including two lower-level health facilities i.e. a Health Centre III (Bunapongo), a Health Centre IV (Bufumbo), and a tertiary level health facility i.e. Mbale Regional Referral Hospital (RRH). Stakeholder engagement at facility, district, and regional levels ensured alignment and support. Each site developed inclusion criteria for people living with HIV (PLHIV) and NCD clients. The model used improvised data tools, including client care cards and counter books, to streamline care delivery. Biweekly virtual meetings supported knowledge-sharing and problem-solving across the sites from June to December 2024.

Lessons learned: The integrated model achieved high client satisfaction, with 95% (359/378) of clients reporting satisfaction through a standardized survey. Enrolment of PLHIV increased significantly: at the RRH, from 6.4% (341/5,342) in June 2024 to 15% (789/5,342) in December 2024; at Bunapongo, from 10% to 14% (35/251); and at Bufumbo, from 35% to 60% (292/489).
Among NCD clients, 80% (832/1,039) achieved good clinical outcomes, while viral suppression rates among PLHIV improved from 94% in June to 95% (607/628) in December 2024. Follow-up appointment adherence increased from 89% (357/399) in September 2024 to 93% (512/549) in December 2024.
Conclusions/Next steps: Integrating HIV and NCD care into a one-stop integrated clinic model improved health outcomes, client satisfaction, and service delivery. The approach underscores the importance of leadership support, stakeholder engagement, and collaborative learning. Scaling up this model could strengthen primary healthcare, enhance client-centred care, and accelerate progress towards sustainable HIV epidemic control in Uganda.

EP1043

Comparing Tuberculosis (TB) yields among contacts of persons with TB versus contacts of persons living with HIV and TB in Nigeria: which group exhibits a higher TB yield

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Background: TB a leading cause of death and morbidity globally, with persons living with HIV (PLHIV) at higher risk of developing TB disease due to associated immunosuppression. Household contacts of index persons with TB have higher exposure risk, and the presence of HIV might complicate the risk profile.
This study assessed the TB yield among household contacts of Persons with TB versus contacts of persons living with HIV and TB (PLHIV/TB).
Methods: A retrospective cross-sectional study conducted among household contacts of persons with Pulmonary TB was categorized into two groups based on the HIV status of the index person with TB. One group was contacts of persons with TB, and the other included contacts of PLHIV/TB. Between January and December 2024, a total of 4,975 contacts were screened using symptoms-based questionnaires: 3,265 being contacts of persons with TB and 1,710 contacts of PLHIV/TB. Those identified as presumptive TB cases were investigated for TB.
Results: Among the contacts of PLHIV/TB, the TB yield was 23%. In comparison, contacts of persons with TB had a higher TB yield of 32%, with a p-value<0.05. Observing the proportion of presumptive cases, persons with TB group had a higher percentage of 33%, compared to 23% in PLHIV/TB group. Furthermore, the proportion of children aged 0-14 years diagnosed with TB was remarkably higher in persons with TB group, at 34%, compared to 12% in PLHIV/TB group.

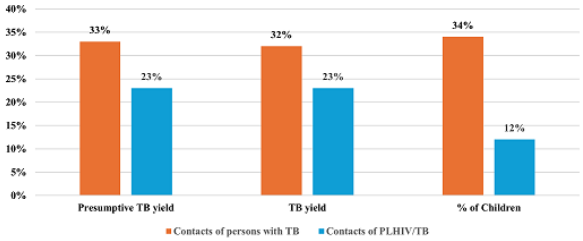


Figure. Comparison of TB indicators of contacts of persons with TB & PLHIV/TB.

Conclusions: Contacts of persons with TB are more likely to be diagnosed with TB disease compared to contacts of PLHIV/TB. HIV appears to lessen the likelihood of TB transmission. The high TB yields observed in both groups underscores the importance of TB screening of the contacts of index persons with TB. This is essential for identifying persons with TB disease who require treatment and for implementing TB Preventive Therapy to tackle latent TB infections.

EP1044

Alignment of end-to-end HIV services by Global Fund, PEPFAR & Government of Nigeria in Northern, Nigeria: lessons learnt & impact on HIV service continuity

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Background: The alignment of HIV services between the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund (GF) became essential for continuity, scalability, and long-term sustainability in HIV programming in Kwara and Gombe states, Nigeria. The transition of General population and Orphans and Vulnerable children (OVC) programs were structured to maintain service quality while shifting ART client management from PEPFAR and the GF. These states were chosen due to their high HIV burden and progress under PEPFAR-supported projects. The GF 2023 annual report highlighted its investment in HIV treatment, with 25 million people on lifesaving antiretroviral therapy, up from 17.5 million in 2017. By transitioning PEPFAR-supported sites, Nigeria aims to achieve its 95-95-95 targets, aligning with UNAIDS' strategy to end AIDS by 2030.

Description: The transition process in Kwara and Gombe was executed in four structured phases and roadmap: transition planning, pre-transition (data/resource sharing and stakeholder engagement), overlap (joint service delivery with continuous oversight), and post-transition (sustaining service quality).
This phased approach ensured seamless integration of services, minimized disruptions, and maintained compliance with national standards.
Lessons learned: The transition period was January-June 2024. 54 HIV comprehensive health facilities in Gombe (34) and Kwara (20) were transitioned from PEPFAR to GF ensuring uninterrupted service delivery to clients. 38,946 individuals receiving ART for the General population (0-14yrs=2.6% and 15-.50yrs=97.4%) and 20,165 Orphans and Vulnerable Children were transitioned from PEPFAR to GF support. The process demonstrated strong collaborative efforts, real-time data tracking, and technical support were critical in overcoming challenges such as logistics in rural areas and staff turnover.
These efforts underscore the importance of capacity building and structured approaches for health program transition and demonstrates SFH's operational expertise and strengthened Nigeria's capacity to sustain HIV programs domestically.
Conclusions/Next steps: This transition offers valuable lessons for future programming in Nigeria, emphasizing resilience, scalability, and community engagement as the country strives toward its national HIV goals and a replicable framework for similar transitions globally. There is need for enhanced local capacity building, strengthened data systems, broader community involvement. Digital health innovations and integrated, client-centered approaches are vital for sustainable epidemic control.

EP1045

Integration of non-communicable disease (NCD) management into ART service delivery in Niger state: lessons, challenges, and opportunities

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Background: The rising prevalence of non-communicable diseases (NCDs) among people living with HIV (PLHIV) presents a substantial challenge for healthcare systems, particularly in low-resource settings. In response, the Centre for Clinical and Clinical Research ACE 4 project in Niger State, the USAID funded Accelerating Control of HIV Epidemic, (ACE 4) integrated NCD management into antiretroviral therapy (ART) services to address this dual burden and improve client health outcomes. This study evaluates the impact of this integration, aiming to identify best practices for health system strengthening.
Methods: Quantitative data were gathered from 20 healthcare facilities across 24 LGAs supported by the ACE 4 project, spanning from January 2023 to December 2024. The facilities were divided into two groups of intervention and control facilities. The intervention facilities received tailored training, on-site mentorship to improve NCD screening, diagnosis and management while the control facilities continued with routine care. The Key indicators includes the proportion of PLHIV screened for NCDs, the prevalence of diagnosed NCDs, treatment initiation rates, and adherence to both ART and NCD medications. Data were extracted from facility records in the Electronic Medical Record (EMR) and analyzed using descriptive and inferential statistics to examine trends and correlations.
Results: Findings revealed that out 2,500 PLHIV 2,175 (87%) were screened for NCDs, with a 45% prevalence of diagnosed NCDs, primarily hypertension (30%). In comparison, only 15% were screened in control facilities, with a 28% NCD prevalence. In the integrated care group, 80% initiated treatment for both HIV and NCDs, compared to 55% in the control group. ART adherence was 92% in the integrated care group versus. 75% in controls, while NCD medication adherence was 85% versus. 60%. Strong correlations (r = 0.72 and r = 0.68 respectively) were found between integration and improved outcomes.
Conclusions: The data strongly support the significance of integrating NCD management into HIV ART services. The results demonstrate that this integration leads to improved screening, higher treatment initiation rates, and better adherence to both ART and NCD medications.
These improvements in care outcomes emphasize the need to prioritize integrated care models in HIV services, which can ultimately enhance the health and well-being of PLHIV.

EP1046

Using non-communicable diseases' champions to improve screening and management in HIV settings between January and September 2024: lessons learnt from Baylor Fort Portal-Mubende Program

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Background: In pursuit of the UNAIDS 95-95-95 targets, there is increased need to integrate non-communicable diseases (NCD) care into HIV programming due to the growing dual burden of NCD and HIV epidemics which may compromise ART/HIV treatment outcomes. NCD-HIV integration faces implementation barriers in public health facilities in resource limited settings. We present best practices and lessons from Fort Portal-Mubende HIV program in midwestern Uganda.

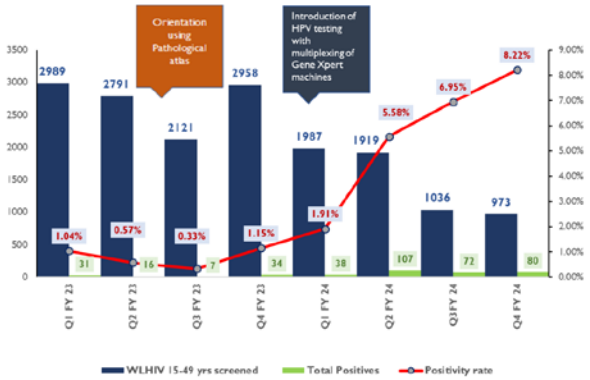
Description: BFU started implementing an integrated HIV/NCD care program in 254 health facilities in 16 districts in mid-western Uganda in January 2024. Interventions include stakeholder engagement meetings, provision of appropriate clinical instruments, job aides, data tools, and mentorship on screening, diagnosis and case management of diabetes mellitus (DM), hypertension (HT), mental health (MH) and alcohol/substance (A/S) abuse.
Biweekly data review meetings were conducted; NCD champions and community structures were identified and engaged to provide adherence support, return missing clients, conduct health education, counseling, and community sensitization of high-risk individuals.
PEPFAR databases were reviewed and the proportions of Persons Living with HIV (PLHIV) ≥ 15 years screened for NCD, diagnosed and treated between Jan-Mar 2024 and Jul-Sep 2024 were compared.
Lessons learned: Between January - March 2024 and July - September 2024, there was an overall increase in PLHIV screened for NCD conditions; from 56% (56178/100842) to 80% overall (71975/90318); DM increased from 49% (48984/100842) to 81% (73608/90318), HTN from 49% (46343/94724) to 82% (73524/90318), MH from 63% (62302/99414) to 79% (71296/90318), A/S from 63% (62302/99414) to 77% (69473/90318).
This was accompanied by a 72% increase in NCD cases identified from 3,159 to 5,443; HTN (1163 to 2942) and A/S (826 to1430) had the highest increase compared to DM (376 to 396) and MH (794 to 675). The proportion of NCD cases treated or referred for management increased from 77% (2442/3159) to 93% (5070/5443). By the end of Sept 2024, 51% of cases were controlled on treatment. NCD champions played a role in demand creation, linkages, and peer support.
Conclusions/Next steps: Engagement of NCD champions improved NCD screening and management of PLHIV. Scale-up by other HIV care providers may improve NCD screening, treatment and ART outcomes.

EP1047

Advancing cervical cancer detection: a scalable HPV testing approach for women living with HIV in the Acholi region

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Background: Cervical cancer constitutes 35.5% of all cancer cases in Uganda, representing the most prevalent cancer among women living with HIV (WLHIV) aged 25-49. Effective early detection methods, including visual inspection with acetic acid (VIA) and Human Papillomavirus (HPV) testing, are crucial for identifying precancerous lesions, which can be effectively treated through thermocoagulation.
However, by the end of 2022, the detection rate for cervical cancer at PEPFAR-supported sites in the Acholi region was alarmingly low, below 1%, failing to meet the Ministry of Health's (MOH) target of 5%. The initial screening approach, relying solely on VIA, was heavily dependent on the subjective assessments of healthcare professionals.
Description: To address this challenge, trained healthcare professionals provided mentorship to site teams, focusing on utilizing pathological atlases to enhance the visualization and identification of common cervical lesions encountered in clinical settings. In partnership with the MOH, the PEPFAR-supported initiative expanded HPV screening to 11 Gene Xpert sites, aiming to improve the detection rate of precancerous lesions among WLHIV. Key actions included strengthening healthcare worker competencies, utilizing Gene Xpert machines for multiplex testing, distributing HPV cartridges, and promoting self-sample collection techniques. These initiatives were designed to boost the uptake of cervical screening among WLHIV.
Lessons learned: Significant improvements were observed in the diagnosis of precancerous lesions: the percentage of women diagnosed through cervical cancer screening increased from 1.04% (31 out of 2,989) at the end of 2022 to 8.22% (80 out of 973) by the end of 2024. Among the 297 positive diagnoses in 2024, 31 were suspected cases of cancer. Of the 266 individuals eligible for treatment, 246 (92%) were successfully linked to care services.



Conclusions/Next steps: The implementation of HPV testing markedly increased the detection rate of precancerous lesions among WLHIV. Furthermore, the introduction of self-sample collection methods significantly enhanced client acceptance and accessibility to screening services.

EP1048

CLM data reflect high quality TB services provided in 20 Health facilities in Maseru District

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Background: This abstract provides an in-depth secondary analysis of the feedback gathered from individuals who accessed Tuberculosis (TB) services through the Community-Led Monitoring (CLM) initiative in the Fiscal Year 2024. The CLM program, implemented by the Mosepele Foundation Development Forum (MFDF), aimed to collect and analyze patient feedback to improve the quality and

accessibility of healthcare services across various health facilities. A total of 2,150 participants were reached across 20 health facilities in the second round. Of these, 146 individuals received TB services of which 90% were co-infected with HIV, making their feedback crucial for evaluating the overall quality of TB care provided as Lesotho is among 30 priority countries highly burdened by TB.

Methods: The secondary analysis of CLM program data for FY 24 was undertaken to explore the feedback provided by patients who accessed TB services from the 20 supported health facilities in Maseru District. The data was captured manually and analyzed using descriptive statistics.

Results: The findings highlight several critical themes in TB service delivery with notable high quality of services and high patients satisfaction. The feedback shows high accessibility of TB services, with 91% of participants reporting that services were easy to access and 97% reporting that services were readily accessible. 98% of participants reported receiving all the services they were looking for while 97% of participants finding the facilities easy to navigate with 92% expressing satisfaction with the respectful treatment they received from healthcare workers. on the other hand, some respondents reported long distances to health facilities with lack funds for transportation which results in lost followup with fear of returning due to unbecoming attitude of healthcare workers following break from treatment. (28%) described the waiting times as long, and 10% reported them as excessively long cues.

Conclusions: In conclusion, the feedback gathered through the CLM initiative provides valuable insights into the experiences of TB patients and highlights both strengths and areas for improvement in TB service delivery. The findings suggest that while most patients are satisfied with their care, there are ongoing challenges related to access, service availability, waiting times, and confidentiality that require attention.

EP1049

Closing the gaps - integrating HIV testing into TB programs: a scalable model for maternal and pediatric health in Nigeria

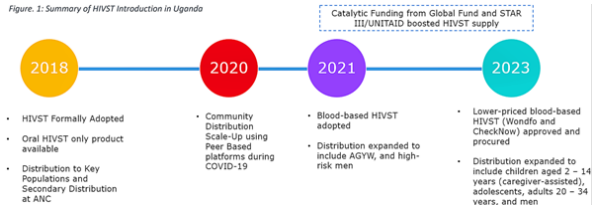
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Background: Nigeria accounts for 14% of global pediatric HIV cases, with a 23.4% vertical transmission rate in 2023, driven by low antenatal care coverage and poor PMTCT uptake. Additionally, 62% of deliveries occur outside formal health facilities, often without skilled care. To address these gaps, the IHVN Global Fund Grant cycle-7 implements community-based testing and referral systems as part of TB/HIV integration efforts.

This study evaluates the effectiveness of these interventions in reducing pediatric HIV incidence through community engagement.

Description: In 2023, Uganda introduced two lower-priced BB HIVST kits, Wondfo ($1 EXW) and CheckNow ($1.50 EXW). In 2020, only 3% of all HIV tests distributed in Uganda were HIVST. By 2023, distribution increased over four-fold, representing 12% of all rapid HIV tests. This expansion enabled the introduction of more HIVST distribution channels (Figure. 1)



Lessons learned: Between January and November 2024, the program identified 278,592 PW, testing 219,093 (79%) for HIV. Of these, 1,098 (0.5%) tested positive and were linked to care and ANC. Additional cases included 553 syphilis, 53 hepatitis B, and 13 HIV-HBV co-morbidity. Compared to 2023, the project accounted for 14% of newly identified HIV-positive PW and an 8% increase in PW aware of their HIV status

Key successes include strengthened TB-HIV collaboration, improved ANC attendance, and local ownership. Best practices include integrated disease testing and expanded logistics delivery points. While Challenges include TB-worker resistance, dual test kit shortages, and limited commodity access.

Conclusions/Next steps: The findings highlight the effectiveness of integrating HIV testing into TB programs and leveraging community-based interventions to enhance HIV prevention, treatment, and ANC attendance, while identifying co-mobidities and addressing gaps in service delivery, offering a scalable model for improving maternal health outcomes and reducing pediatric HIV incidence.

EP1050

Integration of the active case finding tool to enhance tuberculosis screening and diagnosis among healthcare seekers: a case of Othoro Level 4 Hospital, Kenya

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Background: The global pursuit of identifying and eradicating tuberculosis (TB) remains a challenge, but with effective mechanisms and interventions this goal is achievable. Othoro hospital (OH) is in Homa Bay (HB) County in Kenya and HB is among the top five counties with a high burden of TB and HIV. OH, had a low identification of TB diagnoses at 14% as at August 2022. To curb this, TB screening was introduced at all service delivery points using the Active Case Finding Tool (ACFT). This was meant to compliment screenings that was previously done at the HIV clinic only. The study aims to assess the impact of the ACFT.
Description: We reviewed healthcare seekers registers for the period October 2022 to October 2023 and assessed the number of clients screened using the ACFT, those further investigated through chest X-ray, Gene-Expert, TB LAM, and sputum microscopy. Health workers were trained on the use of the active case finding tool and proper documentation, across the service delivery points to decentralize TB screening. Coughing and sick people were given priority and escorted to see the clinician.
Lessons learned: A total of 8,273 females and 5,511 males were screened with the ACFT yielding a presumption rate of 2.8%, out of which 382 samples were tested and 45 TB diagnoses were confirmed. 38 % and 22% of the TB diagnoses were male and female adults living with HIV, while 14% and 18% were male and female adults who had not acquired HIV.
8% were children below 15years. The positive detection rates were 52% Gene-Xpert, 24% TB- LAM, 19% sputum microscopy, and 5.2% Chest X-ray. The TB case identification increased from 14% to 84% one-year post implementation of the study.
Conclusions/Next steps: This study demonstrated an increased number of TB diagnoses by decentralizing TB screening from the HIV clinic and integrating screening across all service delivery points. Adapting the ACTF integration will reduce the TB stigma and its association with HIV.

EP1051

Cancer prevention: knowledge, attitudes, and practices of people living with HIV in Argentina

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Background: Antiretroviral therapy has extended the life expectancy of people living with HIV (PLHIV), leading to an aging population and a rising incidence of non-AIDS-defining cancers. This study examined knowledge, attitudes, and practices concerning cancer prevention among PLHIV in Buenos Aires, Argentina.
Methods: A focus group (FG) was conducted in November 2024, with 13 PLHIV: 4 men who have sex with men (MSM), 6 transgender women (TGW), and 3 cisgender women (CW). Participants provided informed consent. The 90-minute FG was transcribed and analyzed using Hamilton's rapid analysis. Predefined categories were used: knowledge (prevention, screening, risk factors, and information sources), attitudes and beliefs, practices (behaviors and barriers), and recommendations.
Results: Participants reported limited knowledge of cancer risk factors and screening but lacked knowledge of the recommended age for screening and the implications of familial cancer burden.
Key sources of information included their infectious disease specialists (IDS), Google, and artificial intelligence tools. Younger MSM, who were more knowledgeable, emphasized the need for accessible and reliable information, referencing science communicators as key facilitators. Some participants noted a significant gap in cancer awareness beyond breast cancer, highlighting the need for broader visibility and education efforts in cancer prevention.
Others mentioned that it is beneficial to adopt healthy habits for a good quality of life, but they did not believe it was directly related to cancer prevention. A myth emerged, especially in TGW, suggesting that avoiding thoughts of illnesses could prevent them from developing.
Barriers included limited appointment availability, long waiting times and difficulties building trust with non-IDS providers for sensitive discussions and exams, particularly proctological. Other barriers were: socioeconomic vulnerability, fear of diagnoses other than HIV, stigma and discrimination related to HIV and gender identity, and taboos around proctological health.
Conclusions: Significant knowledge gaps and persistent myths about cancer prevention were observed. These, along with structural and individual-related barriers to healthcare highlight the urgency to enhance health information, address misinformation, and foster stigma-free healthcare environments. Targeted awareness campaigns on non-gynecological cancers and improved access to preventive care are critical for enhancing PLHIV´s overall quality of life.

EP1052

Community-based SRHR services for women living with HIV and sex workers in crisis settings

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Background: Accessing healthcare in Myanmar presents challenges due to high costs, limited resources, and barriers and Martial Law disproportionately affecting women living with HIV (WLHIV) and sex workers. SRHR knowledge remains low, with cervical cancer receiving little attention despite nearly 7,000 new cases and 4,500 deaths annually. In 2023, Nway Htwe Eain (NHE) and Myanmar Positive Women Network (MPWN), in collaboration with Médecins du Monde, launched a SRHR project in Yangon, focusing on cervical cancer prevention through community-based HPV DNA self-sampling.

Description: The project integrated SRHR services, including HIV, STIs, contraception, and cervical cancer prevention, supported by peer-developed IEC materials. Trained peers from NHE, MPWN, and three local partners organized 2,631 individual counseling sessions and 671 collective health education sessions, reaching 9,695 individuals and multiplier training within the communities by the peers, ensuring broader reach.

A total of 1,350 WLHIV and sex workers were tested for HPV DNA, with over 60% opting for self-sampling. HPV testing, more sensitive than VIA, identified 22% as positive, diagnosing and treating 77% of cases VIA might have missed. Among those treated, 95.5% received care for high-risk HPV types.

Lessons learned: NHE and MPWN adapted to Myanmar's restrictive environment by prioritizing individualized counseling and tailored support, fostering behavior change and invested in peers capacity building. Engaging key stakeholders, such as family members, bar managers, and brothel owners, enhanced women's access to services.

Awareness sessions, paired with peer training and counseling, not only increased prevention uptake but also empowered women to take an active role in cervical cancer prevention. The self-sampling approach increased healthcare access, and proved particularly effective in restrictive settings.

Conclusions/Next steps: This project demonstrates that SRHR services, including cervical cancer prevention, can be successfully implemented in crisis settings through community-driven approaches. Integrating self-sampling HPV testing with comprehensive SRHR services and equipping peers from local organizations addressed the unique needs of WLHIV and sex workers.

Scaling up such initiatives can reduce cervical cancer morbidity and mortality while addressing broader SRHR needs, extending beyond HIV prevention to comprehensive harm reduction intervention.

EP1053

Innovations in HIV service delivery: lessons from Zimbabwe's differentiated service delivery review

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Background: Differentiated Service Delivery (DSD) is a client-centered approach optimizing HIV services to align with client preferences and health system efficiencies. Zimbabwe began implementing DSD models for antiretroviral therapy (ART) in 2017 and has conducted annual DSD Reviews since 2018. These reviews evaluate progress, share best practices, address challenges, and highlight innovations.

The 2024 DSD Review, held in July-August 2024, marked a critical milestone by incorporating four provinces—three participating for the first time—and expanding focus to include service integration with tuberculosis (TB), family planning (FP), mental health, and non-communicable diseases (NCDs).

Description: The review included 148 facilities across 30 districts in Mashonaland East, Masvingo, Matabeleland North, and Midlands. Data collection involved facility and individual client surveys, analyzing 4,630 recipient of care (RoC) records across 12-, 24-, and 36-month ART cohorts. Key indicators assessed included viral load monitoring, retention in care, integration of services, and uptake of DSD models. Data were collected using Survey CTO and analyzed with Power BI. The review methodology emphasized triangulation with national data, ensuring robust findings.

Lessons learned: Key findings revealed both progress and gaps. Over 80% of recipients of care (RoCs) initiated ART on the same day as HIV confirmation, while multi-month dispensing (MMD) reduced facility visits. Retention rates were below 60%, with under 15% enrolled in DSD models despite eligibility. Over 60% received TB preventive therapy (TPT), and ART-FP service linkages improved. Resource shortages hindered mental health screenings and CD4 testing.

Quality improvement (QI) projects, task-shifting to lay cadres, and tele-counseling pilots addressed documentation challenges and improved continuity. Integrating non-HIV services into DSD models and synchronizing ART with NCD reviews demonstrated scalable approaches to improving care delivery.

Conclusions/Next steps: The DSD Review highlighted the need for better service integration, strengthened cohort management, and capacity-building for healthcare workers to optimize DSD implementation. Scaling electronic health records and addressing resource constraints remain pivotal. Lessons from the review emphasize pathways to sustainable, scalable HIV service delivery in resource-limited settings, reinforcing Zimbabwe's commitment to achieving universal health coverage and UNAIDS 95-95-95 targets. Future reviews will prioritize continuous quality improvement and innovative approaches to close existing gaps.

EP1054

Lessons on integration of NCDs into HIV care and prevalence of non-communicable diseases among people living with HIV in ART clinics managed by the Ugandan military

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Background: As People Living with HIV (PLHIV) live longer because of successful ART programs, non-communicable diseases (NCDs) have now become the leading cause of morbidity and mortality among PLHIV. Over the last 5 years, the military ART program has registered a notable increase in number of elderly clients (≥50yrs) on ART. A study conducted in Uganda among PLHIV on ART revealed that the prevalence of HTN was 29%. In 2023, URC supported the military to integrate NCDs screening and management in HIV clinics. URC trained health workers, provided job aids and onsite mentorship.
This review sought to document lessons on NCD integration, the burden of HTN, DM among adult PLHIV receiving ART from military HIV clinics in Uganda.
Description: This was a program review using routine program data collected over a 3-month period (July to September 2024) for adult PLHIV (≥15yrs) attending 31 ART military facilities. Data were summarized, collated, analyzed using excel, presented as frequencies, percentages, and text.
Lessons learned: By the end of September 2024, 31 military facilities were screening PLHIV for NCDs. Overall, 91% (19,318/21,249) of all adult clients on ART were screened for HTN of whom 2% (452) were diagnosed with HTN. Of those diagnosed with HTN, 53% (240/452) were males, 22% (101/452) were aged 50- 54 years, 18% were 45-49 years, 16% were 40-44years.
Only 4% (19/452) of those with HTN were aged 60+ years. 90% (19,120/21,249) of all adult PLHIV were screened for diabetes mellitus (DM) of whom 0.6% (106) were diagnosed with DM.
Of those diagnosed with DM, 53% (56) were males, 23% (24) were aged 35-39 years. The majority of those found with DM/HTN were unaware of their diagnosis. All PLHIV received the due treatment/referral.
Conclusions/Next steps: NCD screening and management can be easily integrated into HIV Clinics. NCDs, especially HTN are common among PLHIV in Uganda. The highest burden is among men aged 50-54 years. Systematic management of NCDs should be integrated into HIV care programs in sub-Saharan Africa. This will result in early diagnosis, treatment and potentially improved outcomes.

EP1055

Integrating hypertension screening into decentralized antiretroviral refill service delivery points: lessons learnt from Southern Nigeria

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Background: Access to screening for non-communicable diseases at decentralized antiretroviral refill (DSD) points is important to the delivery of optimal person-centered services for people living with HIV (PLHIV). We document lessons learnt from the integration of hypertension screening into DSD points in Southern Nigeria.
Description: PEPFAR/USAID supports 96 Community Pharmacies and 250 Decentralized Spoke health facilities for ART refill in Akwa Ibom and Cross River States. These DSD sites were mapped and linked to hypertension treatment facilities in a hub-and-spoke mechanism. Hypertension screening was integrated into the routine chronic care screening checklist and done by a lay worker using electronic sphygmomanometers.
Service providers were trained on screening, documentation, and follow-up referrals for clients with hypertension. Sphygmomanometers were also provided to the DSD sites. Post training supportive supervision and performance dashboards were used to monitor the screening.
PLHIV who commenced hypertension treatment had their ART refills aligned with their hypertension refill dates. We reviewed quarterly ART refill and hypertension screening data from the electronic medical records from October 2023 (Q1) to September 2024 (Q4) to determine the screening uptake.
Screening uptake was defined as the proportion of PLHIV accessing ART refills who had hypertension screening. We also compared the proportion of hypertension cases before (October 2023-March 2024) and after (April-September 2024) the start of the intervention.
Lessons learned: Over the 12 months, 63,799 clients received ART refills, 61.3% (39129/63799) were female, with median age of 39 years (IQR:32-45). Hypertension screening increased from 44.6% (6,412/14,365) in Q1 to 86.7% (13,028/15,019) in Q4 (p<0.001).
Of those screened, 2.3% (1,072/46,437) were diagnosed with hypertension, declining from 2.9% (183/6,412) in Q1 to 1.8% (240/13,028) in Q4 (p<0.001). Hypertension was higher among individuals aged ≥50 years (4.6% [321/7,049]), and least among those aged 15-24 years (1.6% [35/2,141]) (p<0.001).
Screening uptake was higher (78.7% [36,192/46,012]) at health facilities, compared to community pharmacies (57.6% [10,245/17,787]) (p<0.001). Key challenges experienced include inadequate screening equipment and access barriers to hypertension treatment.

Conclusions/Next steps: Integrating hypertension screening into DSD was effective, with improving uptake over time. This approach provides a replicable pathway for integrating other essential health services with DSD.

EP1056

Integrating NCD management into existing services: Experiences of added-on NCD services to previously dedicated HIV clinics in military facilities in Uganda

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Background: In June 2022, the Ugandan Ministry of Health rolled out new HIV guidelines, highlighting the potential benefits of integrating noncommunicable disease (NCD) screening and management within HIV clinics. With funding from the Department of Defense HIV/AIDS Prevention Program (DHAPP), URC supported the Uganda People's Defense Forces (UPDF) to roll out the integration of NCDs. This abstract describes short term outcomes of this model of added-on NCD services to previously dedicated HIV care facilities in HIV clinics managed by the military in Uganda.

Description: The process commenced with a baseline assessment to identify the status regarding staffing, supply chain, and equipment needed for NCD integration in five high volume clinics. HIV clinic staff received specialized training to screen and manage NCDs, and health facilities were equipped with the necessary tools and logistics for effective NCD screening. The client clinic flow systems were reorganized to integrate NCD screening at triage points, managed by a trained health worker. Registers were provided to ensure proper documentation of screening results. Coordination with the main health facility pharmacy ensured co-location of NCD medicines.

Health workers were mentored on NCD integration, and periodic assessments were conducted using Ministry of Health's service quality assessment tools. By the end of the year, all facilities had successfully integrated NCD screening.

Lessons learned: Within 12 months of implementation, 80% of adult people living with HIV had been screened for hypertension, diabetes, and mental health. Successful integration of NCD management in HIV clinics requires tailored training of existing health workers, implementing basic protocols within established HIV clinics, modifying client flow, and providing basic equipment, such as glucometers, blood pressure machines, and stadiometers. The integration resulted in improved patient experiences by reducing waiting times.

However, key challenges included an increased workload for health workers and the inability to provide NCD medicines at no cost to patients, unlike antiretrovirals.

Conclusions/Next steps: A chronic care model of integrating NCD management within existing HIV clinics is feasible and will lead to early detection of NCD's, potentially leading to better outcomes. Varying supply chain systems that address both NCDs and HIV are needed to advance this model's benefits.

EP1057

Strengthening the blood pressure care and treatment cascade for people living with HIV at Entebbe regional referral hospital, Uganda

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Background: Uganda has a dual burden of NCDs and HIV/AIDS with an overall prevalence of pre-hypertension of 38.8% among its 42 million population. Adults-living-with-HIV experience more chronic metabolic complications because of both the HIV itself and ART. They are more likely to develop hypertension compared to HIV-negative individuals. By Quarter1, at ERRH, health care services for Hypertension and HIV/AIDS were organised in separate clinics making it difficult for a client with multiple conditions to access care. At each clinic visit, the client should be screened for the common NCDs particularly diabetes mellitus, hypertension and mental health, At Entebbe Regional Referral Hospital, in period Oct-Dec'23, our reports showed that 67% of clients seen were screened for Hypertension and 12% on treatment were controlled. The project was aimed at integrating Hypertension care into HIV Care.

Description: The 9-months-project aimed at 100% screening of clients at ART clinic for hypertension, management and ensuring blood pressure control among those identified with hypertension. Clinic meetings were held to identify and analyze the reasons for above performance.

An action plan was generated including re-arranging the clinic flow, attaching a triage Nurse, lobbying for antihypertensive medication due to less stock provided by GOU, buying BP machines, onsite mentorship of clinic staff, weekly performance reviews, daily clinic coverage by a doctor and daily health education on lifestyle modification.

Lessons learned: The number screened for HTN improved from 67% (474/707) in Q1 to 93%(1931/2079) by Q4. This was achieved through re-arranging the clinic flow and attachment of a fulltime triage nurse. The clients diagnosed with HTN increased from 13% (262/1396) in Q2 to 20% (420/1931) by Q4 as a result of improved screening and availability of a full time doctor.

Treatment increased from 32% (34/105) to 86% (217/252) with availability of a doctor. Blood pressure control rate improved from 12% to 45% (114/252) due to daily health education on lifestyle modification and availability of prescribed medication at no cost.

Conclusions/Next steps: Integrating care for HIV and hypertension is feasible, acceptable, less costly, improves hypertension control and is a possible solution to improving access to care among clients with multiple conditions

EP1058

Empowering HIV care with people-centered metrics: lessons from Uganda's most vulnerable populations

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Background: In Uganda, reaching the UNAIDS 95-95-95 targets presents considerable challenges, particularly among children and adolescents, where viral suppression rates are notably low at 60% (Spectrum Estimate, 2022). Despite ongoing efforts, current clinical interventions often neglect vital social determinants of health.
This shortfall emphasizes the necessity for a comprehensive, client-focused approach to HIV care that addresses lived experiences and systemic obstacles faced by clients.
Description: A pilot initiative in the Acholi and Karamoja sub-regions introduced People-Centered Metrics (PCM) to deepen insights into individual client circumstances, focusing on quality of life and care experience. This year-long intervention targeted children and adolescents living with HIV aged 0–19 with high viral loads (≥1000).
The PCM methodology involved interviews with clients and caregivers to identify underlying causes of non-adherence, such as food insecurity, social isolation, and insufficient caregiver support.
Customized interventions, including directly observed therapy (DOTS), nutritional support, and community-based initiatives, were implemented in collaboration with local NGOs and healthcare providers.
Lessons learned: The intervention involved 898 children and adolescents, with 550 achieving viral suppression by the program's end. Key outcomes showed steady improvements in people-centered metrics: the percentage of CALHIV with minimal or no HIV-related symptoms increased from 35% in January 2023 to 57% in December 2023. Mental wellness improved from 61% to 69%, social support from 54% to 65%, and experiences of minimal or no stigma rose from 89% to 91%.
Financial burdens decreased, with the proportion of families resorting to loans or selling belongings for HIV-related care dropping from 25% to 17%.
Recommendations for HIV services increased from 86% to 88%. Viral suppression rates improved significantly, rising from 69% to 82%, strengthening client-provider relationships. Health workers reported enhanced empathy and responsiveness, while clients noted better support and health outcomes.
Conclusions/Next steps: Integrating PCM into routine HIV care has shown substantial improvements in viral suppression, care experience, and quality of life for vulnerable populations. This approach highlights the significance of addressing social determinants and engaging clients comprehensively. Scaling this model nationally could address critical gaps in HIV care and accelerate progress toward achieving the 95-95-95 targets.

EP1059

Establishing the extent of multimorbidity burden through integration of community-based hypertension, and diabetes screening within an HIV programme in Zimbabwe

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Background: Globally, there is a growing burden of non-communicable diseases (NCDs). Notable gaps exist in understanding the extent of coexisting chronic health conditions, such as hypertension and diabetes mellitus, among people living with HIV (PLHIV) in our context.
From December 2022 to December 2023, we implemented a community-based HIV/NCDs Integration program in the urban provinces of Bulawayo and Chitungwiza with the aim to increase access to Hypertension and Diabetes screening and treatment for PLHIV.
Description: In Chitungwiza, 25 community health workers (CHWs) living with HIV were trained through an intensive, two-day competency-based curriculum. The training covered effective health promotion techniques for NCDs and the use of digital blood pressure machines and glucometers. The CHWs conducted screening during follow-ups for services.
Community health workers referred individuals with elevated blood pressure and blood glucose readings to their local clinic for further management. In Bulawayo, screening was conducted in the community during outreach activities by nurses trained in the World Health Organization's Package of Essential NCD (PEN) interventions. Priority for screening was given to PLHIV aged 40 years and older.
Details of PLHIV who were screened were entered into the District Health Information Software (DHIS2) tracker to enable follow-up. A Chi-square test was used to evaluate differences in comorbidity between genders, geographic regions and age bands.
Lessons learned: Of the 4,853 PLHIV who underwent both blood pressure checks and glucometer tests, 63.7% (n = 3,091) were female. Hypertension was the most prevalent comorbidity, affecting 45.4% of those screened, while 1.5% (n = 75) were living with diabetes mellitus. The coexistence of HIV, diabetes mellitus, and hypertension was observed in 2.1% (n = 104) of PLHIV.
The analysis showed no significant differences in multimorbidity prevalence between genders or between the provinces of Bulawayo and Chitungwiza. However, a significant difference in multimorbidity was found across age groups ($p < .001$).
Conclusions/Next steps: The high prevalence of comorbidities with advancing age among PLHIV calls for a shift from disease-centric to person-centered programs to

improve their quality of life. This approach should include comprehensive screening for a broader range of comorbidities, to address health challenges faced by this population.

EP1060

Integrating mental health services into HIV programs: Nigeria's programmatic experience

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Background: In Nigeria, mental health (MH) challenges disproportionately impact adolescents and young people living with HIV (AYPLHIV) compared to those without HIV (34.9% versus 23.1%), contributing to worse HIV outcomes. However, fewer than 10% of all persons in need receive MH care due to workforce shortages (~0.1 per 100,000). In 2024, Nigeria's Federal Ministry of Health (FMoH) and Clinton Health Access Initiative (CHAI), supported by the Elton John AIDS Foundation (EJAF), became one of the first countries to adapt WHO's mhGAP 3.0, integrating MH into HIV services utilizing non-specialist healthcare workers (HCWs).

Description: In November 2023, CHAI and the FMoH established a national Mental Health Technical Working Group to lead mhGAP 3.0 contextualization during stakeholder workshops, and develop a healthcare worker (HCW) toolkit to pilot.

A three-day training for HCWs was conducted on essential care and practice, depression, anxiety, suicide, and alcohol/substance use disorders to support piloting a decentralized MH screening and treatment model in six states, one from each geopolitical zone. A 3-day training was also held for Group Interpersonal Therapy.

Training and service delivery data are captured within CommCare and PowerBI. Pilot results are reviewed quarterly with stakeholders to support quality improvement and inform future recommendations for MH integration.

Lessons learned: Among the 131 HCWS (clinicians, nurses, case managers, adolescent peer supporters, and community cadres) trained, knowledge and attitude scores rose from 65% to 82% (p<0.001) following training.

HCWs activated services with MH talks and depression, anxiety and substance use disorder screenings integrated during routine visits in 17 ART clinics and one-stop shops (OSS) for key populations. From June to December 2024, 1,429 AYPLHIV were screened: 38% screened positive for depression, 19% for anxiety, 16% for both, and 24% reported suicidal ideation.

Clients are linked to psychosocial interventions, psychotherapy and/or specialists based on severity. Follow-up screenings measure impact.

Further, the FMoH has appointed state-level MH focal officers and encouraged ongoing mentorship by MH specialists to support implementation.

Conclusions/Next steps: Preliminary results indicate the feasibility of MH-HIV integration, with improved HCW capacity and client screenings. Mental health outcomes will be evaluated to confirm effectiveness and inform scale-up recommendations.

EP1061

Impact of family planning integration on uptake of HIV testing services in Lesotho: evidence from the Baylor CoHipSEC Project, Berea

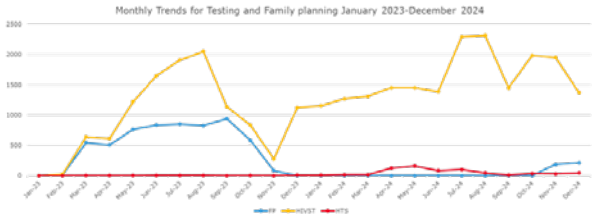
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Background: The integration of family planning (FP) services within HIV programs has been shown to enhance HIV testing services uptake. This study assesses the impact of FP service integration on HIV testing uptake within the Baylor CoHipSEC (Comprehensive High Impact Community-Based HIV Prevention, Testing and Treatment) project in Berea, Lesotho. The objective was to determine the contribution of FP integration to HIV testing trends.

Methods: The project integrates sexual and reproductive health services with HIV prevention. Data were collected from service delivery reports from January 2023 to December 2024, focusing on HIV self-testing (HIVST), conventional HIV testing services (HTS), and FP uptake by age groups. This is a retrospective study to assess trends in HIV testing service uptake during and after FP stoppage. Trend analysis was used to correlate FP uptake with HIV testing service trends.

Results: From January2023 to December 2023, when FP was integrated, a positive relationship between FP services and HIV testing uptake was observed. However, after FP services ceased in September 2023, a significant decline in HIV testing occurred. HIVST peaked in July 2023 with over 2,000 tests but dropped sharply by October 2023, coinciding with the reduction in FP services. The project then employed other strategies to increase HIV testing among adolescent and young women.



YEARS	HIV SELF TEST	HTS	FAMILY PLANNING
15-19	220	23	57
20-24	7395	136	2103
25-29	9213	207	3779
30-34	2572	155	161
35-39	1791	76	110
40-44	994	53	77
45-49	608	24	39

Conclusions: The findings underscore the effectiveness of integrating FP with HIV services. Higher uptake of HIV testing during FP visits demonstrates the potential of integrated models to reach underserved populations and improve HIV prevention, treatment, and care.

EP1062

integrated HIV and syphilis prevention in Zambia: advancing the fight against maternal and paediatric HIV through dual screening and treatment interventions

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Background: Mother-to-child transmission (MTCT) of HIV and syphilis remains a major global public health challenge. Each year, over 350,000 adverse birth outcomes are attributed to syphilis, with sub-Saharan Africa accounting for 65% of the global burden of congenital syphilis. In Zambia, 4% of 700,000 antenatal care clients acquired syphilis. Although HIV incidence has decreased significantly due to robust testing programs, syphilis increases the risk of HIV transmission by 2.5 times and contributes to adverse pregnancy outcomes. Early detection and treatment of syphilis reduce complications and lower pediatric HIV incidence.
This abstract highlights Zambia's HIV and syphilis integration program, aiming to address co-infections in pregnant women.
Description: The Ministry of Health, in partnership with Evidence Action and other stakeholders, is implementing a program to integrate HIV and syphilis testing in antenatal care (ANC). The initiative includes training healthcare workers (HCWs) and community health workers (CHWs) to perform dual HIV/syphilis testing and management. The program is being rolled out in phases, with the first phase launched in April 2024, expanding services to 836 high-volume facilities. Over 11,038 HCWs and CHWs have been trained. A second phase, started in December 2024, targets an additional 1,042 medium-volume facilities. The program employs cost-effective, innovative strategies to improve maternal and child health outcomes.
Lessons learned: Integrated care streamlines service delivery, maximizes resources, and improves health outcomes. Community engagement builds trust, reduces stigma, and promotes health-seeking behaviors. Capacity building enhances case management and quality of services, while expanding health coverage improves accessibility and equity, fostering sustainable health systems.
Conclusions/Next steps: The dual HIV/syphilis testing program has contributed to reducing MTCT and improving maternal and child health outcomes in Zambia. Continued investment in training, community engagement, and innovative strategies is critical to scaling interventions nationwide and eliminating MTCT of HIV and syphilis.

EP1063

An AI-powered WhatsApp chatbot for chemsex harm reduction in South African men who have sex with men (MSM): exploring user engagement and preliminary implementation findings

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Background: This project investigates the feasibility and preliminary impact of an AI-powered WhatsApp chatbot as a novel harm reduction intervention for MSM engaging in chemsex. Recognizing the limitations of traditional harm reduction service delivery models, this project aims to provide immediate, accessible and anonymous support for MSM who actively engage in chemsex through a sustainable, cost-effective, AI-driven platform.
Description: The closed-system, dynamic-interface chatbot was designed to engage users in confidential conversations, collecting data on inquiries related to substance use, safer sex practices, harm reduction advice, mental health, and referrals to relevant health services.
Interaction logs were systematically collected from the AI platforms back-end and analyzed using an Excel database to identify key themes, user needs, patterns of engagement and outcomes.
Lessons learned: Preliminary findings demonstrate high levels of user engagement with the AI WhatsApp chatbot, with frequent inquiries concerning chemsex substances (72%), safer sex practices (17%), drug interactions and knowledge (2%), and mental health support (9%). However, a significant proportion of user sessions were prematurely terminated (34%), suggesting potential barriers to sustained interaction.
The data reflecting 66% successful electronic assistance, however, indicates a demand for personalized and immediate harm reduction intervention and resources.
This preliminary data highlights the potential of AI-powered chatbots as a scalable and accessible platform for disseminating harm reduction information within the chemsex community. The non-judgmental and anonymous nature of the chatbot may encourage disclosure of sensitive information and facilitate engagement with harm reduction resources.
Conclusions/Next steps: Future iterations of this intervention should prioritize strategies to enhance user engagement and address the factors contributing to session abandonment.
Continuous data analysis and refinement of the chatbot's content and functionalities based on emerging trends in chemsex behaviors are crucial for maximizing the effectiveness of this innovative harm reduction approach.

Innovations in data collection, monitoring and evaluation

EP1064

Differentiated service delivery preferences of a sample of clients receiving antiretroviral therapy (ART) from a tertiary hospital in Lusaka, Zambia

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Background: Differentiated service delivery (DSD) models for HIV care are client-centred models that facilitate efficient HIV services delivery; while overcoming structural barriers that limit access to care. However, evidence suggests that client perspectives of DSD models may differ from health provider perspectives. We carried out a survey among clients receiving ART at a referral hospital in Lusaka, Zambia, to determine their preferred DSD models.
Methods: This was a facility-based survey conducted in 2022. Clients were interviewed on alternate days after a scheduled ART visit. All adults who were virologically suppressed, on ART for more than 6 months and free of any opportunistic infections were considered eligible. A semi-structured questionnaire was use to obtain demographic information and DSD preferences.
Results: A total of 106 clients were interviewed. 42 (39.6%) were male and 64 (60.4%) were female. The ages of the respondents ranged from 18 years to 75 years. The mean age was 42.03 years. The majority of respondents (57.5%) were married. 22.7% were single; 10.4% were widowed while the remaining 9.4% were divorced. 44.3% had received tertiary level education while a corresponding 44.3% had attained secondary level education. 9.4% had attained only primary level education while 2% had no education at all.
The majority of the respondents (83%) preferred to continue scheduled hospital reviews and drug pick-ups rather than community or pharmacy-based DSD models. This is highlighted in the table below:

Type of DSD Model	Number of Patients preferring the model
Community Adherence Group	4 (3.8%)
Urban Adherence Group	1 (0.9%)
Community Pharmacy model	4 (3.8%)
Individual community drug pick ups	9 (8.5%)
Scheduled Hospital drug pick ups	88 (83%)

64 respondents (60.4%) were concerned about disclosure when ART is provided in the community. There was a significant association between type of DSD model and concern of disclosure (p=0.007). There was no significant difference in proportion of individuals concerned about disclosure among clients who had been on ART for less than 5 years; compared to clients on ART for more than 5 years (P=0.647).
Conclusions: There are concerns about disclosure of HIV status when ART is provided via community-based DSD models. Scheduled hospital pick-ups should be continued for clients concerned about disclosure.

EP1065

Understanding predictors of interruption in treatment among Haitian migrants and their descendants living with HIV in the Dominican Republic

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Background: UNAIDS set a goal for 95% of antiretroviral therapy (ART) clients to reach viral load suppression (VLS) to end the AIDS epidemic. However, migrants face socioeconomic challenges that impact their ART adherence, resulting in interruption in treatment (IIT), which negatively affects VLS. In the Dominican Republic (DR), the Enhanced HIV Services for Epidemic Control (EHSEC) project offers HIV treatment services to Haitian migrants and their descendants through eight local partners. From January through December 2023, EHSEC reported 988 IITs among 18,866 clients on ART, equivalent to 5% IIT.
We explored the factors associated with IIT among ART clients at 16 EHSEC clinics (nine public, seven local partner-led) in five provinces (National District, Santo Domingo, La Romana, Monte Plata, San Pedro de Macoris) in the DR.
Methods: We defined IIT as missing ART refill by ≥28 days. Using routinely collected project data (January–December 2023), we conducted descriptive analyses followed by bi-variate analyses to identify factors associated with IIT. We employed multivariate logistic regression with backward elimination to calculate odds ratios (OR) and corresponding confidence intervals (CIs). Statistical significance was determined at a threshold of p<0.05.
Results: At multivariate regression, the following factors were significantly associated with IIT: male (OR 1.16; p <0.001; CI 1.05-1.27), pregnant (OR 1.40; p <0.001; CI 1.40-4.84), receiving ART at public facilities (OR 2.30; p <0.001; CI 1.96-2.70), residing in the National District (OR 4.19; p <0.001; CI 3.48-5.04) and Monte Plata province (OR 1.96; p <0.001; CI 1.53-2.49), six months to one year on ART (OR 1.52; p <0.001; CI 1.16-1.99), one to five years on ART (OR 1.34; p 0.03; CI 1.03-1.73), undocumented initial CD4 test (OR 1.43; p <0.001; CI 1.17-1.74), undocumented initial viral load (OR 1.80; p <0.001; CI 1.48-2.19), and last viral load >1,000 copies/mL (OR 4.62; p <0.001; CI 4.08-5.24).

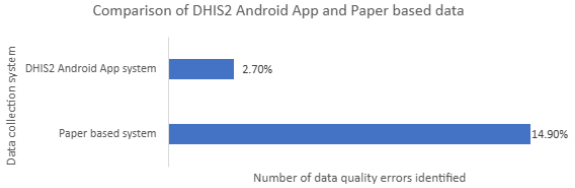
Conclusions: These results highlight key demographic, service-related, and clinical factors linked to IIT. These findings are critical to identify risk-specific interventions to create a model to predict the probability of ITT among currently supported ART clients so that they may automatically be offered enhanced case management.

EP1066

DHIS2 Android app improving data quality and service delivery of community health care services programs. Case study of DREAMS SMART program in Manicaland and Masvingo provinces of Zimbabwe

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Background: DREAMS (Determined, Resilient, Empowered, AIDS-Free, Mentored and Safe) program piloted DHIS2 Android app with 95 club mentors (April to September 2024) to improve security and quality of data reported under DREAMS through mobile technologies. Since DREAMS inception (2016) in Zimbabwe the program used paper-based data collection systems.
Consequently, collection, collation, compilation, analysis and reporting of data faced with data quality problems resulting in incomplete, inaccurate, and untimely data which is not useful for decision making. In response FACT piloted DHIS2 Android app on tablets in Mutare district. The application can capture real-time data at the community level with enforced data validations and directly synchronizes with the national database.
Description: FACT Zimbabwe is implementing an HIV prevention program (DREAMS) in Masvingo and Manicaland provinces of Zimbabwe funded by USAID targeting Adolescents Girls and Young Women (AGYW). FACT utilized 95 trained club mentors to collect data using mobile devices over a period of 6 months. The Application allowed club mentors to enroll participants into the program, capture sessions and e-referrals. Bi-weekly tailored support was provided to all-club mentors, this ensured timely data synchronization and error rectification. Mobile Device Management system (MDM) used to enforce password security. A desktop review was done to compare quality of data collected through DHIS2 Android app in Mutare against paper-based data in Chipinge and Makoni.
Lessons learned: DHIS2 Android app presented unprecedented potential for community health programs to move from era of less reliable data collection and reporting system to more ideal situation of availability and use of quality health information for decision making. Districts with paper-based systems presented 14.9% data quality issues while Mutare has 2.7% (12.2% improvement).



Conclusions/Next steps: Mobile data collection proved to be effective with strengthened cadre support and adequate internet connectivity. Next phase the program will scale up use of tablets to all 6 DREAMS implementing districts.

EP1067

MesoCare revolutionizing HIV care through AI-powered assistance

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Background: Timely, accurate, and patient-centered healthcare is essential for effective HIV management, especially in resource-constrained settings. The MesoCare Smart Health Platform, developed by Zeus Inco, integrates the MesoChatbot and a mini robot HIV CONSULTANT AI Agent to revolutionize the continuum of HIV care. By leveraging advanced AI algorithms, medical big data, and robotics, MesoCare enhances diagnostic accuracy, improves treatment adherence, and provides personalized patient support while optimizing supply chain solutions.
Description: The MesoCare platform features:

1. MesoChatbot: A conversational AI tool providing tailored advice, medication reminders, and emotional support for individuals living with HIV and their caregivers.
2. Mini Robot HIV CONSULTANT AI Agent: A robotic assistant offering in-clinic and remote consultation, capable of providing drug recommendations, guiding treatment decisions, and facilitating seamless communication between patients and healthcare providers.
3. Integrated Supply Chain Solutions: A database of verified suppliers enables users to order medications or health-related supplies directly through the mini robot, with delivery tracking and payment options.

A pilot implementation was conducted across three clinics in Uganda involving 500 individuals living with HIV and 50 healthcare professionals.
Lessons learned: Preliminary findings indicate a 40% increase in diagnostic efficiency and a 35% improvement in ART adherence due to medication reminders and personalized support. The mini robot HIV CONSULTANT significantly enhanced patient engagement, with 75% of users reporting satisfaction with its in-clinic services. Additionally, the supply chain feature streamlined access to essential medications, with over 60% of patients utilizing delivery services.
Conclusions/Next steps: The MesoCare Smart Health Platform, powered by MesoChatbot and the mini robot HIV CONSULTANT AI Agent, represents a transformative approach to HIV care delivery. Its ability to provide accurate diagnostics, personalized support, and efficient medication access has demonstrated significant potential to improve patient outcomes. Future iterations will focus on expanding its database, multilingual support, and scaling its deployment globally.

EP1068

Active case finding and linkage to care of children living with HIV in Cameroon is an effective strategy towards pediatric HIV/AIDS elimination: findings from the 2024 Pediatric Surge

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Background: Fewer than 100 of over 6,000 estimated undiagnosed children living with HIV in Cameroon are typically diagnosed monthly. A robust case finding strategy is critical for closing gaps in the pediatric treatment cascade. We aimed to identify undiagnosed HIV in children/adolescents and screen for tuberculosis (TB), immunization gaps, and malnutrition.

Description: The Pediatric Surge was implemented by integrated facility-led teams (n=1,012 teams) targeting unidentified HIV-positive children/adolescents (0–19 years) in the communities of all 10 regions during July 28–November 30, 2024. Using a district-based approach, HIV testing was offered to children/adolescents born to pregnant women not tested during antenatal care (ANC), women tested positive but who did not deliver at the facility, and HIV-positive mothers with children of unknown HIV status. Children/adolescents were screened for TB, immunization gaps, and malnutrition. Data collection, descriptive indicator-based analysis, and visualizations were performed using ScanForm AI technology, which digitized forms and tracked progress with an automated dashboard.

Lessons learned: The Pediatric Surge reached 132,553 people, with 96,921 tested for HIV: 63,518 children (0–14 years), 13,188 adolescents (15–19 years), 17,709 adult caregivers (≥20 years), and 2,506 persons age unknown. A total of 2,814/96,921 (2.9%) people tested positive for HIV, varying by age: children (1.1%), adolescents (2.8%), adult caregivers (9.4%). Among new HIV diagnoses, 719/2,814 (25.6%) were children and 368/2,814 (13.1%) were adolescents, with an average of 180 and 92 cases identified monthly, respectively; 74.0% initiated ART same day and 24.8% initiated later. Of 1,204 children/adolescents eligible for TB preventive treatment (TPT), 51.3% initiated TPT and 22.6% were referred for evaluation.

Among 7,934 children <2 years with a vaccination card, 714 (9.0%) were not fully vaccinated and referred for immunization. Of 22,168 children <5 years screened, 1,248 (5.6%) were under-nourished and referred for nutritional supplementation.

Conclusions/Next steps: The Pediatric Surge was a successful model that nearly doubled HIV case finding for children and adolescents in Cameroon, linking to care above the expected 95% target.

Notable numbers of under-vaccinated and under-nourished children were also reached and referred for management. This integrated district approach can be a model for routine community outreach to eliminate pediatric HIV/AIDS.

EP1069

Revolutionizing digital health: utilizing the courier logistics application for sustainable sample referral

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Background: Efficient sample referral systems are pivotal for timely and accurate laboratory diagnostics, particularly for viral load (VL), early infant diagnosis (EID), human papillomavirus (HPV), and tuberculosis (TB). Historical reliance on paper-based systems led to incomplete data, missed diagnostic opportunities, suboptimal treatment outcomes, and inefficiencies. To address these challenges, the Courier Logistics App was introduced to streamline sample referrals and strengthen health systems.

This abstract highlights the app's implementation and transformative impact on laboratory services in Zambia.

Description: Developed by the Centre for Infectious Disease Research in Zambia (CIDRZ), the Courier Logistics App is operational across CDC-supported provinces since 2022. Built on Microsoft SQL Server, it integrates a web application and an Android mobile app. Administrators oversee courier metrics, rider assignments, and facility management, while riders use the app for sample pick-ups, including on-demand requests, refueling, and maintenance logs. Real-time data visibility through the web interface supports monitoring, planning, and rapid issue resolution. Key indicators tracked include trip rates, fuel usage, sample volumes, and results distribution efficiency. The app also incorporates automated route optimization to enhance logistics.

Lessons learned: The Courier Logistics App has been instrumental in improving sample referral processes and enhancing health system efficiency. Its implementation has demonstrated the value of transitioning from paper-based systems to a digital platform, leading to significant improvements in data completeness from 35% to 90%.

Real-time data availability has enabled performance monitoring, routes optimization, and effective resource allocation, reducing operational costs and improving service delivery. The integration of diverse diagnostic specimen types has streamlined processes, ensuring timely and reliable transport of samples.

Challenges, such as initial resistance to adopting new technologies, were overcome through targeted capacity-building initiatives, highlighting the importance of stakeholder engagement and training in driving innovation.

Conclusions/Next steps: The Courier Logistics App represents a scalable and eco-friendly innovation in digital health. By eliminating paper-based inefficiencies, it optimizes sample referrals, strengthens health systems, and enhances patient outcomes.

Future steps include scaling implementation nationwide, integrating additional diagnostic parameters, and refining predictive analytics to preempt logistical bottlenecks. This innovation sets a precedent for sustainable, data-driven health solutions globally.

EP1070

Implementation of HIV case-based surveillance using a centralized approach in Uganda

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Background: Uganda has scaled up Antiretroviral Therapy (ART) to 2,400 facilities, with data captured via Point of Care (PoC) systems or retrospective Electronic Medical Records (EMR) entry. However, fragmented and inaccessible HIV data limits national surveillance and tracking of sentinel events. To address this, a process was developed to transmit HIV client-level data to the Ministry of Health's (MoH) central database, enabling comprehensive surveillance and longitudinal case analysis.

Description: Our approach automated sharing of client clinical information from EMRs using an Application Programming Interface (API) infrastructure integrating data into the Central database. Data from an EMR is compiled as FHIR (Fast Healthcare Interoperability Resources) resources with client demographics and clinical information. These resources are stored in the database. Data is then transmitted through Extract Transform and Load (ETL) pipelines to corresponding analysis tables for analysis.

Lessons learned: Data-driven monitoring dashboard and monthly case level analyses support multi-level insights (national to facility) into HIV client care effectively tracking sentinel events and treatment outcomes. These insights can then be used to guide targeted validation and mentorship to improve data quality and enhance client care outcomes.

Conclusions/Next steps: Scaling up national case surveillance to facilitate real-time HIV program monitoring, enhance MoH oversight, and strengthen programmatic support across all service levels. This initiative will improve tracking of sentinel events and treatment outcomes, ensuring comprehensive care and effective epidemic control.

EP1071

Optimizing the continuation of treatment initiative: harnessing data and community involvement in Manicaland and Midlands Provinces, Zimbabwe 2024

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Background: Zimbabwe Health Interventions (ZHI) supports the government of Zimbabwe to achieve and sustain HIV epidemic control in Manicaland and Midlands Provinces. This includes Continuity of Treatment (CoT) for People Living with HIV (PLHIV) as measured by growth in the number of PLHIV on Antiretroviral Therapy (ART), prevention of interruption in treatment (IIT), returning people experiencing IIT back to ART, ensuring that transfers are successful, and accurate record keeping for PLHIV on ART. Evidence show that PLHIV are likely to experience IIT at some point during their treatment.

Description: We implemented approaches to support CoT for over 200,000 Recipients of Care (RoC) *using data at above-site level*, and *expert clients from the community* and within health facilities. Monitoring of CoT granular data was done with use of PowerBI, and discussions on this held in the daily, project-wide, situation room meetings to ensure real-time interventions in minimizing IIT.

Metrics on CoT were compiled, analyzed and displayed monthly by district and facility using excel based dashboards called ART Retention Monitors thereby enabling targeted supportive supervision by above-site staff and facility managers.

Empowered and motivated expert clients reinforced CoT safeguards, strengthening appointment and defaulter tracking systems. At least 453 expert clients provided peer-to-peer support and ensuring traceability of RoC. Expert clients were empowered though training, cell-

phones with airtime, bicycles for transportation etc. Assessment was covered by the Medical Research Council of Zimbabwe protocol (MRCZ/E/159).

Lessons learned: From October 2023 to September 2024 there was an overall 2,155 growth in the number of PLHIV on ART, with the proportion of RoC in care rising from 89.5% (202,093/225,736) to 90.5% (204,248/225,736) of the annual target. There was a negative trend in the IIT. The return to treatment after default (within 28 days) was about 95% overall.

Conclusions/Next steps: ZHI demonstrated adoption of the PEPFAR 5*3 Strategy enablers by *leading with data* for identification of specific areas needing targeted support and *community leadership* in deploying sustainable strategies to optimize CoT. We recommend extensive deployment of innovative site level dashboards to other very key indicators and non-PEPFAR supported districts; and engagement of community cadres to support CoT and other key health areas.

EP1072

Supporting the linkage to ART using high frequency reporting and a cohort linkage tracker: experiences from Kwekwe district in Midlands Province Zimbabwe 2024

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Background: Zimbabwe Health Interventions (ZHI) is supporting the government of Zimbabwe to achieve and sustain HIV epidemic control in Manicaland and Midlands provinces. One key objective is finding remaining undiagnosed people living with HIV (PLHIV) not on treatment, testing and linking them to Antiretroviral Therapy (ART). Individuals testing positive for HIV are ideally offered same day ART initiation. ZHI monitors these Recipients of Care (RoC) and the high-frequency reports (HFR) generated from this data between October 2023 to September 2024 flagged Kwekwe district several times for suboptimal linkage to ART.

Methods: ZHI developed an online cohort (line list) tool for recording and tracking RoC who miss same day ART initiation across supported facilities. These RoC were followed up until either ART initiation or another outcome. Data from these activities is reported through the District Health Information Software (DHIS2) to generate cohort based weekly HFRs for real time granular data use, and cumulative monthly reports. Data from the DHIS2 and Cohort Linkage tool were downloaded and analyzed using Ms. Excel. Assessment was approved by the Medical Research Council of Zimbabwe (MRCZ/E/159).

Results: Though HFR consolidated monthly linkage ranged from 94% to 99%, Kwekwe linkages ranged from 87% to less than 95% yet it is the district with the highest number of newly diagnosed RoC 17% (1,784/10,385). Of 269 RoC captured in the cohort tracker with complete data, average age was 36 years, 50% being male, and 32% (85/269) had recency testing. Most i.e., 79% (212/269) delayed ART initiation due to Tuberculosis investigations or treatment, whilst others either had advanced HIV conditions or were transferred. Delay in ART initiation was up to over 60 days for 11% (29/269) of RoC. Following real time interventions, Kwekwe district recorded ART linkage of 96% (1,714/1,784) at year end.

Conclusions: The HFR was useful in identification of high volume, low performing districts/facilities in real time and the cohort linkage tracker innovation useful to characterize and address barriers for same day ART initiation, thereby optimizing linkage. We recommend continuous real-time granular data use at scale for identifying gaps and targeting interventions and use of innovations such as the cohort linkage tracker.

EP1073

Enhancing access to high-quality sexual reproductive health services for adolescents and young people in Zambia through Tiko's tech-enabled trusted and verified results (TVR) approach

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Background: Adolescents and young people in Zambia face significant barriers to accessing sexual and reproductive health (SRH) services, including family planning, with 29% of young women aged 15-19 experiencing teenage pregnancies and over 13% of youth aged 15-24 living with HIV (Zambia Demographic and Health Survey, 2020). Only 38% of adolescents know where to access essential SRH services, revealing gaps in information, service quality, and credibility (Chikandiwa et al., 2019).

These challenges are exacerbated by cultural stigma, misinformation, and systemic gaps, such as unverified results caused by poor record-keeping, ineffective supply chains, and improper documentation. These issues hinder service continuation, adherence, and retention, limiting progress in improving SRH outcomes for this vulnerable group.

Description: To address these challenges, in October 2023, Tiko Africa Zambia launched the Trusted and Verified Results (TVR) Approach, a tech-driven strategy to improve adolescent and youth access to quality family planning services. By integrating evidence-based methods with community engagement, TVR fosters trust, combats misinformation, and overcomes cultural barriers. It ensures service quality through robust systems, supervision, and

capacity-building, including record-keeping training and client journey orientations. Providing reliable information within a supportive framework, Tiko empowers young people to make informed health choices, enhancing service uptake and health outcomes for this vulnerable group (UNFPA, 2021).

Lessons learned: Between October 2023 and January 2025, Tiko Africa significantly improved data quality across all Tiko-accredited facilities within five ecosystems comprising public and private health facilities. Service uptake was highest among 18- and 19-year-old girls, who accounted for 90% of the services. Tiko managed to reach 22,000 adolescents and young people, accessing 33,157 services. Of these clients, 87.97% were females, with the majority seeking family planning (52.4%) and HIV testing (47.6%), while male clients primarily accessed HIV testing and condoms. The rate of unverified numbers in family planning and other services like HIV testing and counselling decreased from 85% to 2%.

Conclusions/Next steps: Tiko Africa Zambia's TVR Approach improves adolescent and youth access to sexual and reproductive health services by integrating robust systems, community engagement, and evidence-based practices. To sustain impact, expanding to more private facilities, strengthening community outreach, and enhancing capacity-building for providers are recommended.

EP1074

Linkage to care of new HIV diagnoses at AHF-supported health facilities in Rwanda: key factors for success

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Background: Linking newly diagnosed HIV clients to care is a major challenge in achieving the UNAIDS goal of eliminating HIV/AIDS as a public health threat by 2030. Rwanda's HIV program adopted Universal Test and Treat (UTT) in 2018, recommending same-day enrollment and ART initiation for all newly diagnosed HIV clients. Despite this, early retention of these patients remains difficult. To address this, AHF Rwanda embarked on an intensified follow up and adherence support for Newly enrolled clients for the first 3 months in care.

Description: AHF intensified linkage to care strategies in 38 health facilities in Rwanda entails monthly reviews of new HIV diagnoses and their linkage outcomes. In 2020, AHF introduced the "Track Positive"- a digital tracking system to enhance client tracking and ensure linkage to care. The system captures data for all new HIV cases and tracks clients until they complete two clinic visits to confirm linkage. Healthcare providers can quickly view clients' linkage status and offer adherence support to those who have not yet been linked to care.

Lessons learned: Before 2020, linkage rates had not been consistently improving despite healthcare providers reviewing positive cases, with rates 80% in 2016, 85% in 2017, 81% in 2018 and 86.7% in 2019. After the introduction of the "Track Positive" initiative, linkage rates steadily increased, reaching 91% in 2020 and 98% in 2024. The system serves as a communication bridge between testing points and treatment services, improving follow-up for new clients, preventing lost to follow-up, and helping healthcare providers track and document reasons for attrition.

Conclusions/Next steps: The introduction of the digital tool helped healthcare providers track newly diagnosed clients more effectively, improving linkage outcomes. It enabled providers to monitor all new HIV cases, remind them to follow up with clients who had not returned, and offer intensified adherence counseling as needed.

EP1075

Innovative approaches to monitoring CPD engagement for HIV education: insights from digital online CPD platform

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Background: The purpose of this research was to evaluate the engagement and outcomes of a CPD activity, "Advancing Towards HIV Elimination: Strategies, Challenges, and Innovations (HIV-CPD),". The aim was to highlight the effectiveness of data-driven monitoring techniques in enhancing education and supporting healthcare professionals (HCPs) in managing people living with HIV (PLWHIV).

The hypothesis was that data-informed monitoring techniques can significantly enhance the effectiveness and reach of CPD activities by engaging diverse HCPs and aligning their educational needs with regional healthcare challenges.

The study analysed the challenges in equipping HCPs with up-to-date knowledge and skills to manage PLWHIV. The research sought to demonstrate how digital CPD platforms can bridge gaps and contribute to system-wide healthcare improvements.

Methods: The study was conducted over a six-month period from July 2024 to January 2025. Data was collected from a digital medical platform widely used by HCPs in South Africa. This was a retrospective observational study, which included HCPs registered on the platform, who had successfully completed the HIV-CPD activity. Data was collected using Mixpanel, a digital analytics platform, to track user interactions with the CPD content.

Additional analysis was conducted using excel for data visualisation and percentage calculations. Aggregated and anonymised data ensured compliance with ethical standards. Quantitative analysis was performed to assess completion rates, participation trends across provinces, and demographic distribution of participants.

Results: A total of 4,359 HCPs successfully completed the CPD activity, representing 8.7% of the platform's active users. Emergency medicine personnel accounted for the largest share of completions (51.3%), followed by general practitioners (64% of the doctor cohort). Provincial engagement varied significantly, with Gauteng leading at 59% of completions, followed by KwaZulu-Natal (24.3%) and Western Cape (16.7%). The CPD ranked fifth among all platform offerings, highlighting strong interest in HIV-related education.

Conclusions: This CPD activity demonstrates the impact of community-driven and data-informed approaches in scaling education for HCPs. Provincial variations in engagement align with regional HIV prevalence, emphasising the need for tailored strategies to address healthcare priorities. The findings underscore the value of digital platforms in supporting SDG 3 by fostering professional development and strengthening health systems through innovative monitoring and evaluation techniques.

EP1076

A longitudinal analysis of the clinical presentation and outcomes of individuals diagnosed with cryptococcal meningitis in Botswana

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Background: HIV-associated cryptococcal meningitis (CM) remains a major cause of HIV-related mortality. CM treatment in low- and middle-income countries has historically been based on inadequate fluconazole monotherapy; recent advancements have demonstrated the benefit of combination antifungals, including the AMBITION regimen based on a single, high-dose of liposomal amphotericin B (L-AmB).

We conducted a retrospective study to describe the clinical presentation, inpatient management, and outcomes of individuals diagnosed with CM in Botswana between 2014-2022, and explore changes over time.

Methods: We purposively selected the 13 hospitals in Botswana expected to treat the majority of CM cases in the country, including primary, district and referral centres. Cases diagnosed at those centres between 2014-2022 at primary centres and 2018-2022 at district and referral centres were identified through centralised laboratory records. Data for each individual were extracted from paper notes and laboratory records and analysed with descriptive statistics, chi-squared tests, and logistic regression.

Results: 650 cases of CM were diagnosed at the 13 centres during 2014-2022. Of those 47.8% (311/650) paper notes were obtained. Of the 311, median age at CM diagnosis was 38 years (IQR 32–43), 63% (196/311) male and baseline GCS <15 39.6% (122/309). Over time, liposomal amphotericin use increased significantly, with 52.4% of patients receiving L-AmB in 2022, compared to 6.3% in the combined years 2014-2021. Patients treated at primary and district and hospitals were less likely to receive L-AmB than those treated at referral hospitals (20.9% vs 5.81%). Inpatient mortality was 36.3% (113/311).

Survival outcomes were similar across facility type. Therapeutic lumbar punctures were associated with reduced odds of death (OR = 0.54, 95% CI: 0.32–0.91). Treatment with L-AmB based regimens was associated with significantly better odds of survival compared to amphotericin-B-deoxycholate-based regimens (OR = 0.29, 95% CI: 0.19-0.72, p = 0.008)

Conclusions: Significant disparities in CM management were observed depending on where people sought care. Improved outcomes were seen with L-AmB based therapy and appropriate management of raised intracranial pressure. These findings highlight the need for equal allocation of resources and training to ensure all people receive optimal care.

EP1077

Democratizing data: life mapping as a tool for community-led insights in Malawi and South Africa

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Background: COVID-19 continues to have a profound impact on global health, particularly in low- and middle-income countries, where the need for equal access to healthcare has never been more critical. In response to this challenge, ITPC initiated the COVID-19 Citizen Science project, a community-led effort to document real-time perspectives, experiences, and advocacy priorities among people living with HIV. Citizen Science departs from traditional ‚data-extraction' approaches and embraces ‚data-democracy' by combining community-led monitoring, operational research, and a unique methodology known as Life Mapping.

Description: The Life maps (LM) initiative provided participants with mobile phones, data and training, enabling them to document their experiences and share perspectives before, during and after the COVID-19 pandemic, including access to HIV and TB testing, prevention, and treatment services. LM participants were given super-heroes name, this ensures confidentiality. The LM participants document their day to day life experiences through photos and journaling. They drawn from different typologies including Sex Workers, young people, transgender communities among others.

In addition to the day too day documentation, the participants receive themes that they give information and data on. Some of the themes include stigma and discrimination, disclosure, water and sanitation, adherence

to treatment among others. To document and share the work done widely, an exhibition space was created that displays the work done:
https://citizenscience.itpcglobal.org/life-maps/gallery/
Lessons learned: Through the monthly themes data collected and the day-to-day documentation, the LM participants shared data and information that was key in policy advocacy and creation of home-solutions including having Sex Workers peers at health facilities. Interactions with other participants allowed them to share experiences and learn from each other. During the launch of the exhibition space, one of the LM participant highlighted "T*his project gave me a safe space to share my experiences with peers who supported me by listening and sharing their own lived experiences. It helped me address mental health challenges and alcohol abuse*."
Conclusions/Next steps: The Life Maps initiative has demonstrated the power of community-led approaches in generating actionable data, fostering resilience, and driving advocacy. Scaling up Life Mapping and similar participatory methodologies will further strengthen community ownership, data-driven decision-making, and advocacy for equitable healthcare access.

EP1079

Comparative analysis of adverse event incidence rates in the Voluntary Medical Male Circumcision (VMMC) sites from Dolo Project in Lilongwe District, Malawi (Oct 2020-Sept 2024)

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Background: Jhpiego Malawi has been supporting the Ministry of Health through Centers for Disease Control and Prevention funding to provide quality Voluntary Medical Male Circumcision (VMMC) services since 2016. Jhpiego is implementing the Dolo project (2020 - 2025) across 40 sites which aims at achieving saturation of comprehensive VMMC services in the Lilongwe district. VMMC is a critical component of HIV prevention strategies, yet an elective surgical procedure with inherent risks. Monitoring and analyzing adverse events (AEs) associated with VMMC is essential for ensuring patient safety and improving program outcomes.
Description: The analysis involved reviewing adverse event data from 14 VMMC sites in Lilongwe District, which had clients who experienced AEs for the period October 2021 to September 2024. Data was collected from clinical records, incident reports, and follow-up visits. The types and frequencies of adverse events were categorized and compared across 14 sites which were purposively selected based on occurrence of AEs. AE incidence rates were calculated by counting the total number of adverse events for the site divided by the total number of male circumcisions (MCs) performed for the site during the analysis period. Statistical methods, including a Chi-Square test for goodness of fit, were used to identify significant differences and trends.
Lessons learned: Out of 241,776 MCs, 25 AEs were identified: 88% (22) moderate and 12% (3) severe. Bleeding was the most common (60%, 15), followed by infections (24%, 6), Shang Ring displacement (8%, 2), and moderate pain (8%, 2). The Chi-Square test showed significant differences in the adverse event rates across sites (p-value: 0.0004).
Area 28 VMMC Centre had the highest incidence rate at 0.097% (7/7241), while Diamphwe had the lowest at 0.013% (1/7941). Kachale and Chimbalanga Health Centres had rates of 0.044% (3/6795) and 0.031% (2/6438), respectively.
Conclusions/Next steps: The analysis revealed generally low adverse event rates, highlighting the importance of continuous monitoring and targeted interventions to enhance VMMC program safety and effectiveness.
Significant differences in adverse event distribution across sites would benefit from tailored strategies to address specific challenges, maintain high standards of patient care, and improve overall program outcomes.

EP1080

Predictive modelling of cervical cancer risk in women aged 15-49 years in Manicaland and Midlands provinces for the period October 2020 to September 2021

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Background: Cervical cancer (CC) remains a significant public health challenge globally and in Zimbabwe. Early identification of women at risk is crucial for effective prevention and treatment.
This study aimed to develop and compare the performance of two predictive models, Random Forest, and Logistic Regression, for assessing cervical cancer risk among women aged 15-49 years in Manicaland and Midlands provinces of Zimbabwe.
Methods: A secondary dataset of 2,494 women, including 17 demographic and clinical predictors, was utilized for model development. The data were split into training (70%) and test (30%) sets. Logistic regression was employed for its simplicity and interpretability, while Random Forest was chosen for its ability to capture complex relationships between variables. Stepwise variable selection was applied to the logistic regression model to retain significant predictors, and hyperparameter tuning was conducted for the Random Forest model to optimize its performance. Both models were evaluated using metrics Area Under the Curve (AUC), recall, precision, and F1 score. The study was approved by Medical Research Council of Zimbabwe (MRCZ/E/159).

Results: The Logistic Regression model slightly outperformed the Random Forest model in terms of AUC (0.6283 vs. 0.6208). It also demonstrated higher recall (83.79% vs. 49.94%), indicating better sensitivity in identifying true positive cases. However, the Random Forest model had a higher precision (67.43% vs. 63.51%), suggesting better accuracy in its positive predictions. Significant predictors of CC among adult women identified by the Logistic Regression model and Random Forest model included age, parity, lifetime sexual partners, sexual debut, HIV status, and whether the client was on ART.

Conclusions: Logistic regression's higher recall suggests it may be more suitable for identifying at-risk individuals, which is crucial in preventive health strategies.

However, the precision of the Random Forest model highlights the trade-offs between different performance metrics and the importance of context-specific model evaluation.

Independent predictors of CC among adult women included age, parity, lifetime sexual partners, sexual debut, HIV status, and whether the client was on ART. We recommend piloting the model on real time data and integrate it with electronic health record (EHR) systems.

EP1081

Using sub-national community-led monitoring data to enhance gender and population equity in HIV testing in Malawi and South Africa

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Background: HIV testing is a critical entry point into prevention and treatment programs. Yet, there are marked inequalities in access to this service. In South Africa, 81.8% of women have ever tested for HIV versus 69.0% of men. In Malawi, the most recent biological and behavioral survey found that 27.7% of sex workers living with HIV were unaware of their status, compared to 6% of the general population.

A better understanding of human rights- and gender-related barriers for HIV testing is needed to improve service equity.

Methods: The Citizen Science project employs people living with HIV, young people, and key populations to monitor HIV services at 33 health facilities in Malawi (Dedza and Kasungu) and South Africa (West Rand).

Those accessing services at these sites is significant at the district level (95% Confidence Interval [CI]). For this sub-analysis, we conducted monthly clinic records surveys of HIV testing services and analyzed age-, sex- and population-disaggregated data for 75,062 tests conducted from January-October 2022.

Results: In West Rand, 67.4% of all people who tested for HIV in 2022 were young women aged 15-24 years (95% CI: 65.4-69.4), while 14.7% were young men (95% CI: 12.7-16.7). Young women have an HIV prevalence three times higher than their male peers (9.6% prevalence vs. 3.2%), yet they are 4.6 times more likely to test for HIV. We found a positive correlation between provider-initiated HIV testing and uptake among young men ($r = 0.36$, $p < 0.001$), potentially indicating a preference for this testing modality over others examined. In Dedza and Kasungu, COVID-19-related disruptions caused HIV testing to fall by 25.4% (99% CI: 23.4-27.4) among the general population compared with 79.5% (95% CI, 74.5-84.5) among sex workers.

Following the appointment of key populations focal points in health facilities and five sex workers as CLM data collectors, HIV testing increased. In 2022, 120 (95% CI: 114-126) sex workers tested quarterly compared to 36 (95% CI: 34-38) in 2019.

Conclusions: Community-led monitoring data can shed light on service inequalities and provide insight into mediating actions. Prioritisation of preferred testing modalities, population-specific services, and community leadership can help address stigma and reduce inequalities.

EP1082

Effectiveness of the community-facility linkages model in improving enrolment coverage of children and adolescents living with HIV into the OVC program in Mashonaland West province, Zimbabwe

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Background: The participation of children and adolescents living with HIV (CALHIV) in Orphans and Vulnerable Children (OVC) programs is crucial for access to comprehensive HIV care and support services. However, OVC programs report relatively low enrolment coverage of CALHIV. Additionally, gaps exist in linking community-based and facility-based services.

To address these challenges, the Hospice and Palliative Care Association of Zimbabwe introduced the Community-Facility Linkages Model in Mashonaland West Province, Zimbabwe, in 2022. This model aimed to enhance enrollment coverage and strengthen service delivery.

Description: The model fosters collaboration between communities and health facilities to improve CALHIV enrollment in OVC programs and enhance service delivery. It involves seconding Lead Child Care Workers (LCCWs) to 143 health facilities across Chegutu, Makonde, Hurungwe, and Zvimba districts. These LCCWs operate at facilities three days weekly, serving as liaisons between communities and healthcare providers. Their responsibilities include line listing, offering, and recruiting CALHIV for OVC program participation, facilitating HIV treatment literacy, adherence support, viral load testing, and conducting monthly reviews of CALHIV enrolled on ART. LCCWs collect

and report data on CALHIV enrolled at facilities and their OVC program enrollment status using the program data collection tool monthly. This critical role ensures accurate tracking and reporting, enabling informed program planning and monitoring.

Lessons learned: The model achieved a steady increase in CALHIV enrollment coverage in the OVC program, rising from 84% in 2022 to 96% in 2024, surpassing the 90% Country Operational Plan (COP) target. By 2024, district-level enrollment coverage reached 99% in Chegutu, 97% in Makonde, 98% in Zvimba, and 97% in Hurungwe. Furthermore, 94% of facilities in Chegutu (33/35), 68% in Makonde (25/37), and 81% in Zvimba (29/36) achieved 100% coverage. The model facilitated effective tracking and follow-up of unenrolled CALHIV, closing gaps and consistently maintaining coverage above COP targets.

Conclusions/Next steps: The Community-Facility Linkages Model has proven effective in improving CALHIV enrollment coverage in the OVC program, consistently exceeding set targets.

This model demonstrates the significance of integrating community and facility efforts in the provision of HIV services and offers a scalable approach for improving CALHIV enrollment and retention in care programs.

EP1083

Under-reporting of TB-related mortality in Southern province, Zambia, 2023-2024

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Background: Preventing, diagnosing, and treating HIV-associated tuberculosis (TB) is essential to reducing deaths among people living with HIV (PLHIV). Accurate measure of TB-related deaths is critical for informing programs. Given that 95% of TB related deaths are avoidable, the number of people who die from TB is an essential indicator of health system quality. We conducted a data quality assessment (DQA) of TB-related deaths reported in select facilities in Southern Province, Zambia.

Description: We created a line list, documenting mortalities from primary sources and through verbal autopsy between January 2023-March 2024 at 16 large hospitals in the Southern Province. We defined TB-related deaths as any death record with evidence of documented prior diagnosis (bacteriological/clinical) of TB from review of electronic health records, laboratory records, and paper-based registry sources. We then compared the recounts with the reports submitted to the Ministry of Health's District Health Information System 2 (DHIS2) to ascertain accuracy.

Lessons learned: A total of 7,090 deaths were enumerated compared to 5,439 deaths reported in DHIS2, showing 23% (1,651/7,090) under-reporting of deaths during the 15-month period; 601 were TB-related deaths, compared to 175 TB-related deaths reported in DHIS2 (71% [426/601] under-reporting TB-related deaths accounted for 8% (601/7,090) of all deaths compared to 3% (175/5,439) in DHIS2. The median age of death for TB-related deaths was 47 years. Of the TB-related deaths, 68% (410/601) were male and 32% (191/601) were female; 84% (507/601) had a known HIV status documented and 58% (290/507) had an HIV-positive status.

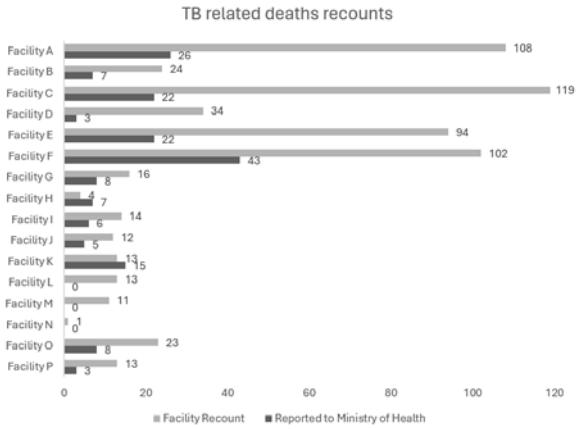


Figure 1. TB-related deaths in Southern Province, Zambia, 2023-2024.

Conclusions/Next steps: TB-related deaths among PLHIV were significantly under-reported, likely due to a variety of parallel systems and registers. Strengthening and streamlining reporting systems for TB from case notification, diagnosis, treatment, triangulation and supervision could preserve data quality for timely opportunities to reduce TB-associated mortality. Similar DQAs in other regions would be beneficial to ascertain country level data accuracy.

EP1084

Methodological triangulation in HIV research: effectiveness of community-led approaches in Nigeria

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Background: Research methods in HIV programs require robust approaches to capture both quantitative and qualitative insights. Within Nigeria's Global Fund-supported Nigeria-TB/HIV Reach Integration & Impact Project (N-THRIP) from January to June 2024, community-led monitoring (CLM) was used to address service delivery gaps.

This study assessed how mixed-methods triangulation has contributed to a comprehensive understanding of these gaps and informs policy and programmatic changes to improve health outcomes for People Living with HIV (PLHIV) and key populations (KP).

Methods: A triangulated mixed-methods approach comprising quantitative data collection through the Network of People Living With HIV/AIDS in Nigeria's Community iMonitor application and qualitative data from 91 focus group discussions sessions across the 13 states from January to June 2024. Quantitative data from 17,657 self-reported cases were analyzed using descriptive statistics, while thematic analysis of qualitative data provided insights into lived experiences related to service accessibility, stigma, and care quality from PLHIV, KPs and priority groups.

Results: Methodological triangulation revealed critical gaps in service delivery, such as frequent drug stockouts, breaches in confidentiality, and prolonged waiting times. Quantitative findings indicated a 12% improvement in client retention rates, while qualitative insights identified stigma and discrimination as persistent barriers to service uptake, particularly among the key population.

This allowed for clearer understanding of numerical trends and human experiences, supporting targeted interventions. This triangulated approach informed programmatic changes, including the proposed institutionalizing of periodic confidentiality retraining for healthcare professionals, scaling up stigma-reduction interventions, improving access to care through community-driven solutions and the quest to improve supply chain management for HIV and TB medications.

Conclusions: The application of methodological triangulation has provided a holistic understanding of service delivery challenges and effectiveness of community-led approaches. This comprehensive evaluation approach can serve as a model for future HIV and TB programs, enhancing the depth and applicability of research findings.

EP1085

Improving use of UgandaEMR to accelerate HIV care through a leadership and mentorship model in the nine districts of Bunyoro Region, Uganda from October 2020 to June 2024

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Background: UgandaEMR is an advanced electronic medical record (EMR) system designed to streamline collection, collation, aggregation, and reporting of patient outcomes within healthcare facilities (HFs). It is built on the OpenMRS platform and customized to track the needs of healthcare providers in resource-constrained settings. In 2020, the coverage and functionality of UgandaEMR in nine districts of Bunyoro were 50% (73/145) and 41% (30/73) respectively.

A root cause analysis revealed infrastructural gaps, inadequate data personnel at some facilities, and capacity gaps among Health Information assistants (HIAs). Thus, we describe the process taken to improve coverage and functionality of the UgandaEMR in Bunyoro.

Description: CDC through Baylor Foundation Uganda, supported acquisition of computers, tablets, Networking equipment, and biometric scanners, to 145 facilities. A total of 102 data and medical records assistants (HRH) were recruited and attached to high-volume facilities. Working with the DHOs, Biostatisticians, facility in-charges, clinicians, HIAs, and HRH staff were mobilized for comprehensive on-site mentorships at the (114/145) health facilities to enhance their data management skills. Hands-on refresher skills training on data entry and backlog clearance, cleaning, and extraction of patient-level extracts and audit tools were done.

Following the mentorship and skills training, facility teams were assigned daily targets for backlog data entry into the UgandaEMR. Weekly progress reports for extracted

data addressed data calls to districts, MOH, and Donors. The cluster teams leveraged WhatsApp group platforms to track progress of UgandaEMR functionalization.
Lessons learned: Coverage and functionality of the UgandaEMR improved from 50% in 2020 to 79% (114/145) and from 41% to 96% (110/114) respectively by June 2024. SMS client appointment messages were sent to 61,510 clients, and mortality surveillance done to 534 deaths. The turnaround time for managing data calls improved from 5 days to less than 24 hours, hence real-time generation of extracts and client-centered audit tools to guide client-centered care. This has strengthened patient-level service delivery and reporting outcomes at the HIV clinics.
Conclusions/Next steps: Comprehensive on-site mentorship focused on skills building, leadership engagement, and budgeting for UgandaEMR activities at districts will improve the sustainability of digital-health information and accelerate person-centered care.

EP1086

Improving real-time reporting in the Electronic Case-Based TB Surveillance System at 155 health facilities in Bugisu and Bukedi regions using a quality improvement approach

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Background: In 2020, the Ugandan Ministry of Health, using partner support, developed an Electronic Case-Based TB Surveillance System (eCBSS) to monitor patient management, reporting, and surveillance of TB and Leprosy across all levels of service delivery. By December 2023, eCBSS had been scaled up to 155 Bugisu/Bukedi region health facilities. However, only 23% of the trained facilities reported TB cases into eCBSS in real-time. The team implemented quality improvement (QI) strategies to improve real-time eCBSS reporting at the 155 Diagnostic and Treatment Units (DTUs) in the Bugisu/Bukedi sub-regions.
Description: A root cause analysis conducted in January 2024 identified several challenges, including undefined roles for data teams in supporting daily TB data entries, insufficient data bundles, limited data triangulation with the weekly HMIS 033b surveillance report, and back-log of TB patients' data. The strategies implemented to address these issues included:

- Revising and defining data team roles to include targets for daily data entry.
- Providing each DTU with 7.5GB of internet data bundles to facilitate daily data entry.
- Developing a phone and email directory of trained personnel.
- Initiating weekly reminders through online platforms such as SMS One, email, and WhatsApp.
- Orienting and assigning 2 eCBSS mentors per district to support weekly follow-up and data triangulation.
- Co-opting additional human resources to support backlog entry in DTUs with high TB cases at the district health office.

Lessons learned: By December 2024, reporting in the weekly HMIS 033b surveillance report to the eCBSS in real-time had improved from 23% to 98%. This integration significantly enhanced the eCBSS's sensitivity in notifying drug-susceptible TB patients, with a total of 1,124 TB patients notified in real-time including persons living with HIV. Over time, it has enhanced the management of individuals living with HIV and TB co-infection by improving drug refill monitoring and treatment success rate from 88% in January 2024 to 93% in December 2024.
Conclusions/Next steps: Implementing QI strategies significantly improved real-time reporting in the eCBSS in the Bugisu and Bukedi regions. This has led to better decision-making and more effective tuberculosis and HIV control efforts in these areas.

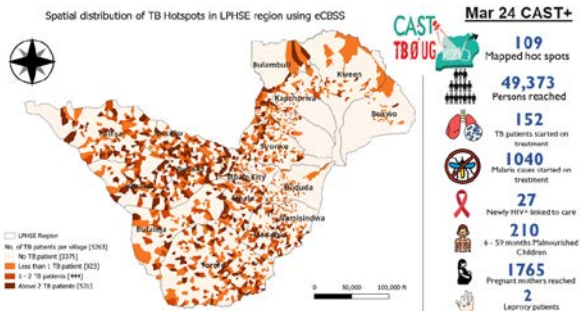
EP1087

Leveraging eCBSS data for geospatial mapping of tuberculosis hotspots and optimizing the integrated TB case finding (CAST+) intervention in Eastern Uganda

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Background: The Ugandan Ministry of Health developed the CAST+ strategy to find missing TB patients through 5-day biannual door to door community screening for TB, leprosy, HIV, malaria, malnutrition, antenatal care and immunization status. The first nationwide campaign was conducted September 2022, covering all villages. However, this intervention has proven costly with variable results. In 2020, Uganda adopted the electronic case-based surveillance system (eCBSS) for TB surveillance and program reporting that provides patient level data and place of residence. We describe how eCBSS data was used to develop geospatial maps to define TB hotspots for targeted CAST + Campaigns.
Methods: Prior to the CAST+ campaign in March 2024, USAID LPHS-E scaled up eCBSS to 93% (166 out of 178) of the Diagnostic and Treatment Units (DTUs) in the Bukedi and Bugisu regions and supported entry to 103% (6992 out of 6860) of the patient backlog. This data was then used to map TB hotspots using Geographic Information System technology, which were prioritized and actively screened during the CAST+ campaign in March 2024. A hotspot was defined as any village with more than two TB patients in the past year (March 2023 to February 2024).
Results:

- There was a 41% drop in unit cost of identifying a TB patient from $66 in September 2022 to $37 in March 2024.
- The March 2024 campaign cost $5,783, a significant reduction from the $50,678 spent in the September 2022 campaign.
- During the March 2024 CAST+ campaign, 155 TB patient from the 109 mapped hotspots were diagnosed and started on treatment, compared to 764 TB patients identified in all villages in Sept 2022 with similar yield of 2.0% and 1.9% respectively.



Conclusions: Utilizing eCBSS data for geospatial mapping enables TB programs to accurately identify hotspots, pinpoint high-burden areas, and effectively guide resource allocation for targeted community TB interventions.

EP1088

Evaluating the impact of gamified Monitoring & Evaluation training on knowledge retention among community-based organizations

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Background: Community-based organizations (CBOs) often encounter significant barriers in adopting robust Monitoring & Evaluation frameworks due to limited technical capacity and resource constraints. These challenges impede data-driven decision-making and program optimization in health service delivery.

This study aimed to assess the impact and acceptability of a gamified M&E training intervention designed to enhance knowledge retention, skills application, and confidence among CBO personnel. The intervention was implemented to evaluate differential outcomes and scalability.

Description: The intervention was conducted over six months in 13 community sites across Gauteng province, targeting CBO staff engaged in HIV, TB, and STI programs. The training utilized gamification principles to simplify M&E concepts, incorporating interactive simulations, role-playing, and competitive challenges. Key M&E competencies covered included indicator selection, data flow management, and reporting frameworks.

Pre and post-training assessments were conducted across age groups (18-29, 30-39, 40-50) to measure improvements in knowledge retention and skills application. Data were analyzed using paired t-tests and logistic regression models to determine the intervention's effectiveness.

Lessons learned: Statistical analysis revealed a significant improvement in M&E knowledge retention across all age groups. Post-training assessment scores improved by an average of 48% ($p<0.001$), with the highest gains observed in the 30-39 age group (OR=2.3, 95% CI: 1.8-2.9) compared to the baseline. The odds of achieving high competency levels post-training were 3.1 times greater among participants aged 40-50 (OR=3.1, 95% CI: 2.4-4.0), indicating a strong association between age and knowledge uptake. Engagement levels, measured through training participation rates and qualitative feedback, showed a 76% satisfaction rate, with 82% of participants reporting increased confidence in applying M&E concepts. Common challenges included difficulties in translating theoretical concepts into practice, particularly among younger participants (OR=0.8, 95% CI: 0.6-1.1).

Conclusions/Next steps: The gamified approach to M&E training demonstrated significant improvements in knowledge retention and practical application across diverse CBO settings. These findings underscore the potential of gamification in enhancing technical capacity-building initiatives.

Future recommendations include refining the intervention by integrating adaptive learning modules and real-time data analysis tools to sustain long-term engagement and application. Scaling the intervention nationally could further strengthen CBOs' capacity for data-driven decision-making, ultimately improving health service delivery outcomes.

EP1089

Utilizing simple clinical decision support system to improve viremia management interventions in people living with HIV on antiretroviral therapy in a high-volume facility in Kenya

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Background: Implementation programs have focused resources to meet the UNAIDS goal of achieving 95% HIV viral suppression among people living with HIV (PLHIV) on antiretroviral therapy. HIV guidelines in Kenya stipulate that PLHIV with high viremia undergo three sessions of intensive adherence counselling to address treatment barriers.

Tracking the intervetions in a high-volume facility is challenging resulting in missed opportunities. We enhanced a viremia management monitoring tool with clinical decision support system (CDSS) features and evaluated its effectiveness in enabling timely interventions.

Methods: This involved high viremia clients being followed up in Kenyatta National Hospital, a national referral hospital in Kenya between Oct 2022 to Sep 2024. The standard manual viremia management register was designed as a sharable Google sheet tool for multiple adherence counsellors.

The enhanced register was implemented in Jan 2024 as a longitudinal version with the capability of documenting multiple viral loads over the follow-up period. CDSS features were incorporated to enable alerts by automatically highlighting records with unique colours based on the due dates for specific interventions.

The main outcome was the duration taken to initiate and complete interventions presented in median days. A comparison of median durations between standard (pre-Jan 2024) and the enhanced (post-Jan 2024) tools was done using Mann Whitney U test.

Results: Out of the 753 high viral loads documented in the period, more than two-thirds (68.3%) were >1000 copies per mL. Those managed using the enhanced register

were 395 (52.5%) while the comparison group was 358 (47.5%). The median duration to initiation of interventions was significantly shorter, 39 days (IQR 28-62 days), after the introduction of the enhanced register compared to 56 days (35-91 days) in the previous period (p<0.001). The overall duration taken to completion of intensive adherence counselling sessions improved significantly to a median of 109 days (IQR 69-154 days) compared to a previous delay of up to 149.5 days (IQR 111-186 days), p<0.001.

Conclusions: Digital solutions are essential in tracking high viremia clients in high-volume settings due to the intensity and multiplicity of interventions. Simple CDSS features incorporated into open-source tools enhance the efficiency of services with little demand for resources.

EP1090

HIV vaccine trial experiences: lessons for upcoming HIV, gonorrhea and chlamydia vaccine research

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Background: Vaccine hesitancy remains a significant barrier to global vaccine trial participation and acceptance, potentially worsened by failed trials. Following an unsuccessful HIV vaccine trial and hesitancy towards COVID-19 and Cholera vaccine campaigns in Malawi, it is unclear if Malawian communities would participate in future vaccine trials or campaigns for upcoming HIV, gonorrhea, and chlamydia vaccines.

This study aims to understand the perceptions, experiences, barriers, and facilitators influencing vaccine uptake and trial participation for upcoming STI vaccines among women who participated in the HIV vaccine trial, as well as the cholera and COVID-19 vaccine campaigns in Lilongwe, Malawi.

Methods: Using purposive sampling, we recruited 28 women for in-depth interviews, divided into four groups: those who received both COVID-19 and Cholera vaccines, those who declined both vaccines, those who received the Cholera vaccine but declined the COVID-19 vaccine, and those who received the COVID-19 vaccine but declined the Cholera vaccine. Interviews were conducted in Chichewa, audio-recorded, transcribed, and translated into English. Data was coded using NVivo 14 and analyzed using thematic analysis.

Results: Women who accepted both vaccines did so for self-protection. However, some women took the COVID-19 vaccine under duress, in order to function as citizens when a COVID-19 vaccine certificate was required. Those who declined the vaccines cited community misconceptions, such as the belief that vaccines are linked to satanism, that people get sicker after receiving the vaccine, that the vaccine causes infertility, and that there are government depopulation efforts.

In addition to these misconceptions, the lack of information about the level and duration of efficacy of different vaccines posed a significant barrier. For instance, some participants refused vaccination because they believed people could still get infected or die despite being vaccinated.

However, most women indicated that they would have no problem participating in vaccine trials if they were properly informed, as this would allow them to contribute to society.

Conclusions: Major barriers to vaccine acceptance in Malawi include misconceptions, lack of accurate efficacy information, and low risk perception. Increasing vaccine awareness is crucial for improving acceptance, with many women likely to participate in HIV/STI vaccine trials due to high-risk perception.

EP1091

Efficiency of the electronic data management system in HIV prevention intervention: lessons from the e-first platform in selected districts of Zimbabwe, 2024

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Background: The Determined, Resilient, Empowered, AIDS-free, Mentored and Safe (DREAMS) HIV prevention program is a fully community-based intervention with ample obligations aimed at reducing HIV among adolescent girls and young women (AGYW) The program puts great value to a functional Monitoring and Evaluation system to enable the organization track, collect, and report high-quality data. The Zimbabwe Health Interventions(ZHI) DREAMS program transitioned from paper based to android based data entry to strengthen the efficiency of data management by going e-first on the screening and enrolment tools that are used to identify and enrol girls into the program.

Description: E-first utilises the android version of the online database DHIS repository. The Community Program Facilitators mobilise and enrol girls at point of data generation in the community. The e-first improves accuracy and reduces the turn-around time for data collection and reporting.

We assessed 65535 (paper-based) AGYW aged 10-24 years enrolled into the DREAMS program between October 2023 and September 2024 and those enrolled between December 2024 and January 2025 (6628efirst) from 11 DREAMS districts under ZHI in Zimbabwe. E-first was introduced

November 2024. Comparison of turnaround time was conducted using SPSS generating descriptive statistics for the 2 periods. This assessment was covered by Medical Research Council of Zimbabwe approved non-research determination protocol (MRCZ/E/216).

Lessons learned: The mean turnaround time for the paper based system was 28 days whilst that for the android version went down to 5 days in cases where data syncing was delayed. This shows a 23-day reduction in time taken between data generation and when it can be utilised. The android version proved to have a statistically significant high efficiency in terms of turnaround time (p=<0.001).

A cost reduction of 82 cents per individual screened & enrolled on paper-based system was realised in terms of cost of paper tools and centralised data entry.

Conclusions/Next steps: The Android data management system is 5 times more efficient than the paper based method. It also saves on scarce resources that can be channelled to reach out to more girls or provide more interventions. We recommend the scale up of e-first data management processes and gradual phase out of the paper-based system.

EP1092

Optimizing HIV testing data reported through Ukraine's Information System for Monitoring Socially Important Diseases (IS MSSD) to facilitate enhanced data use for decision making

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Background: Health information systems are crucial for data-driven clinical care. Ukraine's national HIV testing module, embedded in IS MSSD, lacked the functionality to allow health care providers (HCPs) to access, enter, and/or analyze regional and national-level HIV testing data disaggregated by sex, age, testing modalities, results, population groups, and health care facilities (HCFs).

The USAID PATH-led REACH 95 project worked with the MOH's Center of Public Health (CPH) to update the HIV testing module to enable greater data use by HCFs to optimize HIV testing efforts.

Description: REACH 95 advocated nationally for IS MSSD improvements in September 2023. The project supported identification of required changes to align reporting with international recommendations and include missing disaggregations:

1. Fields to report data by HIV testing modalities, key populations, and facilities;
2. Age and sex disaggregations to the index testing cascade.

To strengthen HCP capacity to use IS MSSD, REACH 95 developed detailed instructions and trainings for 619 HCPs across 238 HCFs on entering and using data in the updated HIV testing module for analysis and programmatic decision making. 92% of the project-supported HCFs (247 out of 268) and 715 users gained access to the HIV testing module.

Lessons learned: By December 2024, HCPs at 233 HCFs entered 84,051 HIV results into the HIV testing module, including 2,628 HIV-positive results. Implementation challenges--including lack of HCP motivation for data entry, war-related electricity and Internet shortages, lack of computer equipment, and training needs—led to incomplete/low-quality data being entered into the system. Managers now use data in IS MSSD to make management decisions to improve effectiveness of HIV testing initiative, e.g., analyzing the testing data in IS MSSD, managers realized that in 122 out of 247 HCFs need to increase HIV testing quality and coverage through HCPs training and quality control programs.

Conclusions/Next steps: REACH 95-supported enhancements to the IS MSSD testing module led to the creation of a unique HIV testing database specifying all testing results allowing to use data at the regional and national level for improved decision making. The project will continue supporting HCFs on data completeness and quality, analysis, and advocacy to increase system access.

EP1093

Revolutionizing client feedback to improve HIV care retention: insights from SatisfApp implementation in Haiti

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Background: Dissatisfaction with healthcare services is a primary reason for interruptions in HIV treatment in Haiti. Addressing client satisfaction became crucial for improving retention in care, requiring significant reforms to the existing client satisfaction system. Traditionally, complaints were conveyed via suggestion boxes, leading to disengagement from care.

To ensure consistency and standardization across all departments, the program introduced SatisfApp, a user-friendly survey tool for clients to share their opinions and experiences anonymously.

Description: SatisfApp, an electronic questionnaire launched in 2021 by TIDE-Haiti, a PEPFAR-funded initiative, is an electronic questionnaire designed to improve HIV care retention, developed through extensive consultations with stakeholders, including clients, authorities, and healthcare professionals.

The questionnaire was developed through focus group discussions to understand interruptions in HIV treatment and refined using feedback from clients, associations, and specialists. It includes open-ended comment boxes, multiple-choice questions, and 5-point Likert scale questions with smiley face icons for improved comprehension to improve comprehension based on user feedback. After piloting with four PLHIV associations and three CSOs, adjustments were made to refine the tool. The SatisfApp

is currently is accessible via the National Federation of PLHIV Associations' website, QR codes on promotional flyers, and links shared in PLHIV chat groups, enabling effective client feedback on welcoming, staff services, waiting times, and stigma.

Lessons learned: Initial participation in SatisfApp was limited due to clients' fear of retaliation. However, after assurances of anonymity, engagement increased significantly. By January 2023, 8,247 forms had been completed by PLHIV from 112 facilities nationwide.

Key findings highlighted issues such as perceived stigma, long waiting times, and poor sanitation as major barriers to retention. In response, PEARS conducted visits to facilities and held discussions with implementing partners, resulting in actions like staff training, developing a stigma and discrimination curriculum, and promoting differentiated service delivery models.

Conclusions/Next steps: The adoption of SatisfApp has provided critical insights into factors affecting retention in HIV care, emphasizing the importance of client satisfaction. Continued use of tools like SatisfApp can drive improvements in service quality and retention. This approach holds potential for expansion across Haiti's broader healthcare system, fostering person-centered care nationwide.

EP1094

Digital assistance tools improves timely access to tuberculosis preventive therapy: a retrospective cohort study in southern Nigeria

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Background: In January 2023, the Accelerating Control of Epidemic (ACE5) project, with funding from PEPFAR/USAID developed a digital assistance tool (DAT) to serve as a TPT initiation reminder system for health care worker.

This study examines the time to TPT initiation after the introduction of the tool.

Methods: This retrospective cohort study included PLHIV who did not receive TPT at ART initiation due to delays for TB testing, across 225 health facilities in Akwa Ibom and Cross River States, Nigeria. DAT was designed to pull aggregate data from DHIS2 at scheduled intervals.

This data was linked to Power BI using direct API (Application Programming Interface) connections. Healthcare providers used the tool to visualise TPT initiation gaps arising from a confirmed negative TB test real-time, triggering a tracking process to provide TPT to the client.

Data on ART initiation dates and TPT initiation dates were collected over 12 months before (January-December 2022), and (July 2023 to June 2024) after the roll-out of the tool. Only PLHIV on ART until June 2024 were included. Time to TPT initiation (weeks between ART initiation and TPT initiation) was analysed by site type (TB diagnostic hub or non-TB diagnostic hub), age group (children 0-14years, or adult), and client residence. All data were analysed using STATA 14.

Results: A total of 8,975 and 9,300 PLHIV initiated ART pre- and post-digital tool roll-out respectively, with 37.3% (3351/8975) and 16.0% (1486/9300) PLHIV not receiving TPT at ART initiation respectively. Within the 12 months follow-up, TPT initiation among those who missed TPT was 88.6% (2969/3396) and 68.3% (1015/1496) pre- and post-digital tool roll-out respectively. The mean time to TPT initiation was 5 weeks (SD±10.2) pre-roll-out and 2 weeks (SD±6.4) post-roll-out (p<0.001). Mean time to TPT initiation reduced significantly by 4 weeks among children (7 weeks vs 3 weeks) compared to 3weeks among adults (p<0.001).

PLHIV Characteristics	Child	Adult	Initiated ART at TB diagnostic hub	Initiated ART at Non-TB diagnostic hub	Resident in same Local Government as health facility	Resident in different Local Government from health facility
Time to TPT initiation (Pre-intervention)	7 weeks (SD:±14)	5weeks (SD:±10)	8 weeks (SD=±12	5 weeks (SD:±10)	5weeks (SD:±10)	5weeks (SD:±11)
Time to TPT initiation (Post-intervention	3weeks (SD:±8)	2 weeks (SD:±6)	2 weeks (SD:±7)	2 weeks (SD:±6)	2weeks (SD:±6)	2 weeks (SD:±7)

Conclusions: The use of a digital assistants showed that while reducing TPT initiation time improves efficiency, identification gaps may remain. Closing linkage gaps in treatment programs should adopt a multifaceted approach and interventions adjusted dynamically.

EP1095

Driving sustainability through integration: Nigeria's experience from integrating pre-exposure prophylaxis monitoring and supportive supervision

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Background: Pre-exposure prophylaxis (PrEP) service delivery in Nigeria began in 2017, targeting key populations and serodiscordant couples, as part of a package of prevention interventions, to reduce the risk of HIV transmission. Monitoring these services is crucial to support evidence-based decision-making and program management; however, quality monitoring mechanisms have historically been siloed by intervention and limited geographically due to funding constraints.

With increasingly constrained HIV budgets, establishing efficient, integrated program management mechanisms is essential for ensuring effective program stewardship,

sustainability, and high-quality services for clients. This paper examines the lessons from integrating PrEP service quality monitoring into the biannual integrated supportive supervisory visits (iMSV) coordinated by the national program.

Description: In March 2024, Government and partners in the HIV program reviewed the electronic iMSV tool to include new indicators for PrEP including knowledge of healthcare workers (HCWs), availability of data collection tools. The iMSV teams were constituted and trained to administer the updated tool and mentor HCWs on PrEP services. The revised tool was administered to HCWs across selected facilities during the two cycles of the iMSVs conducted in 2024.

Lessons learned: The PrEP-specific monitoring and supportive visits covered only 17 sites across three states in the fourth quarter of 2023, which represents 1% of facilities offering PrEP services. In cycle one of the iMSV, 121 facilities across 16 states were visited, while in cycle two, 290 facilities across 36 + 1 states were assessed. This represents 30% of the facilities providing PrEP services nationwide. Key gaps identified include sub-optimal knowledge of PrEP interventions among approximately 50% of HCWs.

To address this gap, on-the-job mentoring was provided, equipping HCWs with the necessary knowledge and skills to deliver comprehensive PrEP services. Similarly, 20% of facilities lacked documentation tools for PrEP service delivery, and this was escalated for action.

Conclusions/Next steps: Integration of PrEP indicators into the iMSV process increased the facility coverage and impact of PrEP monitoring, and enabled large-scale troubleshooting of service delivery gaps, supporting quality improvement and strengthening HCWs' capacity compared to previous siloed approaches. This integrated approach represents an effective model for ensuring quality monitoring across diverse settings.

EP1096

VIP card: A smartcard solution for enhancing HIV care access and continuity for mobile populations in Haiti

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Background: Internal migration poses significant challenges to the continuity of HIV care, particularly in settings affected by instability and displacement. In Haiti, internal displacement due to gang violence has led to widespread disruptions in healthcare services.

The USAID-funded BRIDGE project, implemented by ISPD, aims to improve access to and continuity of HIV care for mobile populations.

Description: To address the challenges of maintaining uninterrupted HIV care for mobile populations, BRIDGE developed and implemented a novel approach utilizing a smartcard system. This innovative solution facilitates the seamless transfer of medical information across healthcare facilities, enabling continuity of care for individuals who may need to access services at different locations.

In collaboration with Solutions, ISPD developed a secure and user-friendly smartcard platform in December 2020. This platform allows healthcare providers to access and securely share critical clinical information, including treatment history, laboratory results, and medication regimens, across participating healthcare facilities. The platform offers several key functionalities like access to a consolidated medical file with data from previous visits across participating sites; real-time data entry and sharing for medication refills, laboratory assessments, and clinical consultations; automated alerts to the client's primary care provider at their original site of care to update their medical records.

The system is available through both web-based and mobile platforms for easy access and data entry. A toll-free number is available to assist mobile populations in locating nearby healthcare facilities equipped with the smartcard system.

Lessons learned: As of December 2024, 52 healthcare sites have implemented the smartcard system, with 7,676 clients registered (4683 females and 2969 males) and 790 cross-site service deliveries documented. These services include 353 laboratory assessments, 337 medication renewals, and 100 medical consultations.

The smartcard system has proven effective in facilitating continuity of care for traveling and displaced clients, reducing wait times, and streamlining the client registration process.

Conclusions/Next steps: The smartcard system has been expanded to support the continuity of care for pregnant women seeking labor/delivery services after receiving prenatal care at different facilities. Ongoing efforts are underway to explore the potential for binational use of the smartcard system for Haitian migrants accessing healthcare services in the Dominican Republic.

EP1097

Using eLABS, a digital health mobile application implemented to strengthen the clinic-laboratory interface by monitoring the sample value chain and improve HIV viral load suppression rates in Zambia in 2023

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Background: eLABS, a digital health mobile application aimed at strengthening the clinic-laboratory interface was implemented in 9/10 provinces in Zambia. The application had a phased implementation from 2017 in 1287 PEPFAR-supported facilities for HIV viral load (VL) testing. Its main purpose is to monitor the entire sample value chain and enhance access to laboratory results and improve client care by means of alerting healthcare workers

(HCWs) of critical results allowing for faster action. The objective of this study was to assess the impact of implementing eLABS on HIV viral load suppression and results turn around times (TAT) in Zambia by analysing data from eLABS facilities and non-eLABS facilities.

Methods: HIVVL turn around times (TAT) and VL suppression (<1000cp/ml) data were collected for analysis for the period January-December 2023. The data set was obtained from eLABS digital health system and DisaLAB laboratory information system (LIS) and distinguished as data for eLABS facilities (n=1287) and non-eLABS facilities (n=1141).

To have the same comparison, TAT was calculated based on sample collection time to sample tested time for both eLABS and non-eLABS records. A paired sample t-test was performed on the mean TAT and VL suppression rates for eLABS and non-eLABS facilities.

Results: HIVVL test volumes for eLABS and non eLABS facilities for the analysis period were 499,172 and 549,403, respectively. Mean VL suppression rates for eLABS facilities (91.13%) were significantly higher than non-eLABS facilities (86,85%) ($p<0.001$ at $\alpha = 0.05$). However, there was no significant difference between mean TAT for eLABS facilities (5,24 days) and for non-eLABS facilities (7,91 days).

Conclusions: The findings demonstrate the positive impact of implementing eLABS on HIV program performance. Visibility of the entire sample value chain through eLABS enables near real-time monitoring of diagnostic processes and allows for immediate interventions for improved client management. Whilst HIVVL suppression has a direct correlation with client antiretroviral therapy adherence; the use eLABS which includes acknowledgement of unsuppressed test results by HCWs, were associated with higher VL suppression rates in facilities utilizing this tool.

EP1098

Using machine learning and geospatial clustering to identify hotspots for targeted HIV testing and prevention services in Kenya

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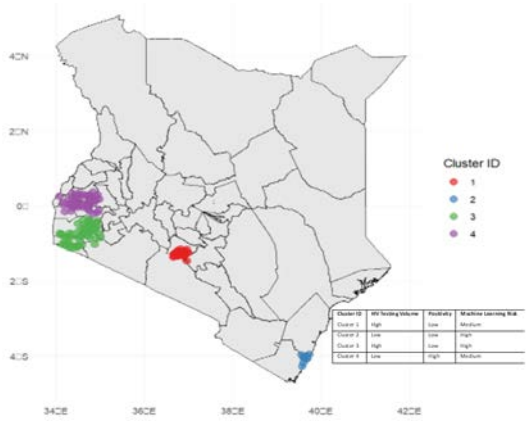
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Background: Kenya is nearing HIV epidemic control. As such, traditional hotspot identification methods based on aggregate data can overlook facility-level nuances. A case surveillance approach is therefore necessary for identifying gaps in the HIV response for targeted resource allocation and interventions. We leveraged machine learning (ML) model predictions and routine case-level data to identify precise geographic hotspots and map clusters of HIV acquisition. Outputs were presented in epidemic intelligence maps to inform tailored public health interventions.

Methods: We analyzed 206,992 case-level data from 1,480 facilities in Kenya's national data warehouse for July 2024, with ML-predicted HIV risk category (very high to low) derived from clients' demographic and behavioral characteristics and facility's catchment population's risk profiles. Clustering was performed using Density-Based Spatial Clustering of Applications with Noise (DBSCAN) algorithm, creating composite scores weighted by ML-predicted HIV risk categories, number tested, number positive, and positivity rates. Clustering was based on 20 kilometers maximum radius and minimum five facilities. Using percentiles, composite risk scores were stratified into low (<25th), medium (25th–75th) and high (>75th) categories. High-risk clusters were identified as hotspots.

Results: Four types of hotspots with the following characteristics were identified:

1. Thirty-four facilities with 1.9% positivity from 11,893 HIV tests and moderate ML-predicted risk;
2. Ten facilities with 2.4% positivity from 1,732 HIV test and high ML-predicted risk;
3. Sixty-one facilities with 2.2% positivity from 10,001 HIV tests and high ML-predicted risk, and;
4. Fifty-seven facilities with 3.3% positivity from 6,706 HIV tests and medium ML-predicted risk.



Conclusions: This analysis identified distinct HIV hotspots. High ML-predicted risk but low positivity might suggest undertesting/emerging transmission trends; medium-risk hotspots with high positivity could indicate opportunities for prevention. These findings indicate the potential for ML-based identification of case surveillance signals to enhance HIV case finding and prevention in high-risk areas.

Other

EP1099

Diagnostic trends and outcomes of cervical biopsy specimens analyzed at Chinsali General Hospital: a retrospective cross sectional study in Muchinga Province, Zambia

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Background: This study aimed to investigate the diagnostic trends and outcomes of cervical biopsy specimens examined at Chinsali General Hospital in Zambia. The primary objective was to address the knowledge gap on cervical pathology prevalence and diagnostic trends in Muchinga Province, particularly considering the increased efforts in cervical cancer screening. The research seeks to contribute valuable insights into cervical pathology, focusing on demographic and pathological distribution.
Methods: A retrospective cross-sectional study was conducted at Chinsali General Hospital, Muchinga Province, Zambia, from July 2023 to October 2024. During this period, all 290 examined cervical biopsy samples were included in the study. To determine cervical biopsy diagnostic trends and outcomes, data analysis was done, and descriptive statistics were reported
Results: Out of 290 results obtained, high-grade squamous intraepithelial lesions (HSIL) were the most prevalent pathology, identified in 78 cases (27%), while adenocarcinoma was the least frequent, with 6 cases (2%). Notable findings included 61 cases of chronic cervicitis (21%), 52 cases of squamous cell carcinoma (SCC) (18%), 39 cases of low-grade squamous intraepithelial lesions (LSIL) (13%), and 54 cases (19%) categorized under other pathologies. Age-specific prevalence analysis revealed a higher incidence among females aged 37–56, with HSIL (53%) exhibiting the greatest diagnostic prevalence in this age group. Monthly trends indicated a consistent increase in biopsy volumes, peaking at 59 specimens (16%) in August 2024.
Conclusions: The study's findings highlightthe importance oftargeted interventions and surveillance for cervical cancer prevention, particularly in high-prevalence age groups. The high rates of HSIL, SCC, and LSIL emphasize early detection's critical role, while chronic cervicitis and adenocarcinoma cases require continued monitoring.
This research provides valuable baseline data for evaluating prevention programs and shaping community interventions, with future efforts focused on refining strategies to reduce cervical cancer burden in affected areas.

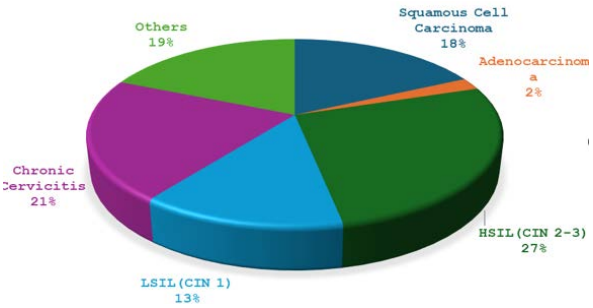


Figure. Types of pathologies.

EP1100

Community HIV testing: a complementary approach for Liberia to achieve the 95-95-95 HIV global goals

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Background: The Meeting Targets and Maintaining Epidemic Control (EpiC) project in Liberia supports the National AIDS Control Program (NACP) to achieve the UNAIDS 95-95-95 global targets. In 2022, Liberia's progress toward the global target was 66-93-76. To address some of the gaps in achieving the first 95, the FHI 360-led EpiC project strengthened community outreach and testing approaches to complement facility testing to improve HIV case finding.
Description: From October 2022 to September 2024, EpiC engaged 26 PEPFAR-supported health facilities and 10 civil society organizations (CSOs) to implement dynamic community outreach and testing initiatives.
These facilities and CSOs collaborated to map areas with potential increases in sexual activities, including Jorbu sites (where at-risk females operate), hubs where tricycle riders and commercial drivers congregate, dedicated safe spaces for at-risk, and busy marketplaces. Peer educators and peer navigators were assigned to raise awareness and facilitate HIV testing, conducted by health facility staff in the community.
We used routine service data and t-tests to analyze the difference in case finding between facility- and community-based testing methods.
Lessons learned: Facilities tested 191,583 recipients of care (ROC) and identified 7,721 HIV cases (4.03%) (Figure 1).

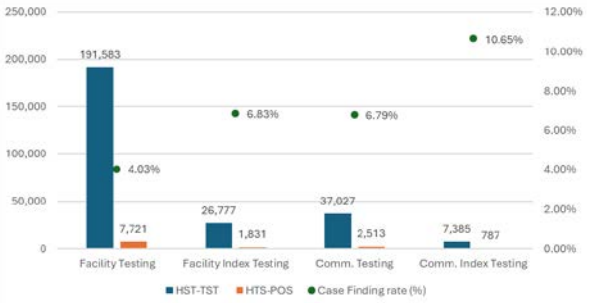


Figure 1.

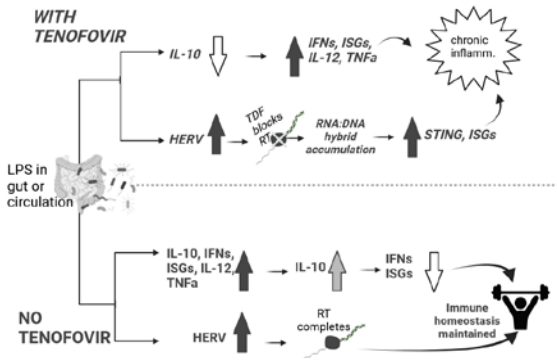
Community outreach efforts tested 37,027 ROC and identified 2,513 cases (6.79%), demonstrating statistically higher case-finding rates (point estimate of difference=2.8%, CI: 2.5%–3.0%, p<0.001).
HIV case finding for index testing was also higher for community vs. facility testing (point estimate of difference=3.8%, CI: 3.0%–4.6%, p<0.001), with 7,385 individuals tested in the community compared with 26,777 at facilities, and HIV case finding was 787 (10.7%) and 1,831 (6.8%), respectively.
Conclusions/Next steps: Integrating community-based HIV testing with facility-based approaches significantly improves overall HIV case finding. EpiC, in collaboration with NACP, will continue to support CSO partners to further refine and scale up these interventions.

EP1101

In vitro modeling of interferon system stimulation by tenofovir

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Background: Many PLWH on ART have elevated inflammation despite undetectable viral loads. We and others showed that this inflammation centers on upregulation of interferon stimulated genes (ISGs), and, independently, that the nucleotide analogue reverse transcriptase inhibitor (NRTI) tenofovir induces such ISGs after both oral and topical treatment in the absence of HIV infection.
Here, we established an *in vitro* model to study the mechanisms of this ISG activation by NRTIs.
Methods: We stimulated PBMCs from 33 donors with 100 ng/µL lipopolysaccharide (LPS) without or with 25 µM tenofovir disoproxil fumarate (TDF) for 24 hours, followed by mRNA sequencing.
We repeated this setup with PBMCs from 5 more donors, adding three doses of the immunomodulator interleukin-10 (IL10) (1E2, 1E3 and 1E4 pg/mL), and measured mRNA expression of ten ISGs, as well as IL10 and IL12B, by digital PCR. In 2 donors, we also measured IL10 and IL12B protein in culture supernatants. We used mixed effects modeling to describe ISG changes as a function of recombinant IL10 concentration.
Results: mRNA sequencing in 33 donors showed concordance of gene expression changes with our previous *in vivo* findings on TDF, especially upregulation of ISGs and IL12B, and downregulation of IL10. Using PCR, we corroborated this TDF effect in 5 separate donors and found that adding IL10 reversed ISG expression in a dose-dependent manner. In 2 donors, we confirmed IL10 down- and IL12B upregulation by TDF at the protein level.



Conclusions: Our work provides an *in vitro* model to study the mechanisms of ISG activation by tenofovir and other NRTIs, specifically that tenofovir treatment suppresses immunoregulatory IL10 and activates ISGs (for hypothetical mechanisms, see Figure 1).
Our results are consistent with other recent data and suggest that PLWH might benefit from medically mitigating tenofovir-induced chronic ISG activation.

EP1102

Predictors of hepatitis B infection among children and adolescents living with HIV at a pediatric center of excellence in Cameroon

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Background: Hepatitis B virus (HBV) remains a global health challenge with about 350 million chronic carriers worldwide. Among people living with HIV, HBV coinfection is high with 8.3% prevalence in Cameroon. Of note, HBV infection at infancy leads to 90% risk of developping hepato-cellular carcinoma in adulthood especially in case of HIV coinfection. The scarcity of evidence on HBV among children and adolescents living with HIV (CALHIV) requires investigation for context specific decision-maiking.
We sought to ascertain the prevalence and predictors of HBV among CALHIV within the health system of Cameroon.
Methods: A facility-based study was conducted among CALHIV at the pediatric centre of excellence in Ebolowa Regional Hospital, South region of Cameroon, from June-September 2024. From every consenting CALHIV, socio-demographic and clinical features were collected on standard sheets; whole blood was collected on EDTA tubes; overt-HBV was tested by HBs Ag rapid diagnostic test targeting 5 biomarkers (HBs Ag, Anti-HBs, Anti-HBc, Anti-HBe, HBe Ag) and occult-HBV was tested by stan-

dard-PCR on anti HBc+/HBs Ag- samples. Data were analysed using a multivariate logistic regression for predictors of HBV, with p<0.05 considered statistically significant.

Results: Out of 100 CALHIV on site, 86 were enrolled. Mean-age was 12.41±4.79 years, 55.81% female, 65.12% residing in rural-settings, 48.84% with a primary educational level, all were receiving ART with 97.67% being on dolutegravir-containing regimens, 75.58% were ART-adherent and 69.77% had achieved undetectable viral-load (<50 copies/mL). Of the 13 reactive to anti-HBc (15.12%), three were positive for overt-HBV and no case of occult-HBV was detected, giving an overall HBV prevalence of 3.49% (3/86). Interestingly, 2/3 HBV-positive cases were viremic, from one HBV-negative and 2 HBV-unknown status mothers, 3/3 HbeAg-negative and 1/3 elevated-ALT.

Following multivariate analysis, only history of blood transfusion (OR=5.56 [1.30-23,72], p=0.02) and sexual intercourse (OR=5.77[1.22-27.41], p=0.03) were independently associated with HBV-infection among these CALHIV.

Conclusions: Despite HBV high-endemicity in adult-populations, its burden appears low (<5%) among ART-experienced CALHIV within the Cameroonian health system, driven essentially by overt-HBV in the frame of antiretrovirals treating HIV/HBV.

Hence, eliminating HBV among CALHIV in care requires focusing on those sexually active or with history of blood transfusion in settings like Cameroon.

EP1103

Identifying heterogeneity in HIV risk among Pastoralist youth in Southern Ethiopia using a latent class analysis

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Background: Despite ongoing efforts, new HIV acquisition among youth aged 15 to 24 years continues to rise in sub-Saharan Africa, largely due to risky sexual behaviors drived by underlying social and structural risk factors. Understanding the diverse risks faced by youth and identifying those most at risk is essential for effective HIV prevention. However, there are limited person-centred approaches to identify and target the highest-risk groups.

Primarly, the objective of this study was to identify heterogenity in HIV risk among pastoralist youth based on their exposure to soial and structural HIV risk factors.

Additionally, it seeks to examine the association between heterogenious HIV risk sub-groups and their engagement in risky sexual behaviors/HIV preventive practices.

Methods: This study employed a cross-sectional design among pastoralist youth (15-24 years) in pastoralist districts of southern Ethiopia from April 1 to May 29, 2024. We collected data from 638 randomly selected participants through interviewer-administered surveys. Latent class analysis was utilized to identify the distinct HIV risk sub-groups and their association with risky sexual and preventive behaviors were assessed using binary logistic regression.

Results: The analysis identified three sub-groups of youth with varying HIV risk: high-risk (39.7%), precarious-risk (42.0%), and low-risk (18.3%) sub-groups. The high-risk group had significantly higher odds of engaging in risky behaviors such as having multiple sexual partners (AOR=4.63; 95% CI=2.53-8.50), transactional sex (AOR=2.94; 95% CI=1.22-7.08), inter-generational sex (AOR=2.06; 95% CI=1.07-3.99), and alcohol use before last sex (AOR=6.09; 95% CI=2.61-14.21) compared to the low-risk group.

The precarious-risk group also had elevated risk behaviors compared to the low-risk group. However, the high-risk group had higher odds of HIV testing (AOR=1.98; 95% CI=1.18-3.32) than the precarious-risk group. Precarious-risk group had no significant difference in HIV testing status compared to the low-risk group (AOR=0.60; 95% CI=0.27-1.37).

Conclusions: The findings highlight the diverse and nuanced HIV risk profiles among pastoralist youth, suggesting that a one-size-fits-all approach to HIV prevention is insufficient. The highest-risk group should be prioritized due to their pronounced risk experience and behaviors, but the precarious group also requires attention, as they remain less likely engaged in preventive behaviours despite their elevated risk.

EP1104

Bridging gaps in access to oral HIV pre-exposure prophylaxis (PrEP): implementation outcomes of a pharmacy-led PrEP service delivery model in Klang Valley, Malaysia

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Background: Oral HIV pre-exposure prophylaxis (PrEP) is available for free in public clinics, but uptake remains low (<5,000 users) in Malaysia, potentially due to stigma, long waiting times, and limited clinic hours. To address this, we piloted a pharmacy-led PrEP service delivery model.

Methods: We conducted a single-arm prospective study at six private pharmacies in urban Klang Valley between October 2023 and October 2024. Pharmacists assessed

PrEP eligibility for participants aged 18-49 using digital checklist-based tools, facilitated oral-fluid HIV self-testing, provided PrEP counselling, coordinated electronic prescriptions with physicians through an existing telemedicine platform, and dispensed PrEP at a participant fee of ~USD $15/month.

Follow-up occurred at month-1, month-4, and month-7 post-initiation. A subgroup (n=30) self-reporting continuing PrEP use and a negative HIV test within three months was followed-up at month-3 and month-6. Implementation outcomes data (acceptability, appropriateness, feasibility, fidelity, and sustainability) were collected through post-study online surveys while adoption/uptake was evaluated via participant records.

Acceptability, appropriateness, and feasibility were measured with a 4-item validated tool; fidelity was based on eight items related to core service components; sustainability was measured by satisfaction and willingness to recommend and continue the service at retail price (~USD $35/month).

Results: A total of 230 participants were enrolled: 211 attended baseline visits, while 19 defaulted. Median age was 30 years (IQR 8), 92% were gay/bisexual men, 37% reported condomless sex in the past three months, 52% were first-time PrEP users, and 65% preferred event-driven PrEP. Initiation rate was 98% (205/208); one was linked to care following a positive HIV test, two had medical contraindications, and three declined PrEP. Retention rates were 82% (169/205) at the first follow-up, 75% (155/205) at the second, and 72% (127/175) at the third, excluding the 30 participants requiring only two follow-ups.

Survey completion was 79% (166/208). Mean scores for acceptability, appropriateness, feasibility, and fidelity were 4.81, 4.77, 4.76, and 4.76, on a 5-point scale. Satisfaction (9.39/10) and willingness to recommend (98%; 164/166) and continue the service (83%; 137/166) were high.

Conclusions: Findings demonstrate high implementation effectiveness and potential for pharmacy-led PrEP services as an alternative access point, supporting broader implementation across Malaysia and similar settings.

EP1105

Barriers to the diagnosis and treatment of tuberculosis in people with and without HIV in Abidjan, Côte d'Ivoire: a qualitative study

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Background: Tuberculosis (TB) remains a leading cause of morbidity and mortality in West Africa. We sought to identify barriers to the diagnosis and treatment of TB from the participants' perspective in Côte d'Ivoire, West Africa.

Methods: We conducted a qualitative sub-study within the TB-Sentinel Research Network of IeDEA at the CePReF clinic in Abidjan, Côte d'Ivoire. Individuals ≥18 years of age who had received treatment for pulmonary TB within the preceding 12 months were interviewed. We collected and analyzed qualitative data using the Classic Grounded Theory approach. Descriptive analysis of quantitative variables was performed.

Results: Interviews were conducted with 40 participants (median age 35 [IQR 25-46] years), including 19 (47.5%) women and 9 (22.5%) people living with HIV (PLHIV). Participants experienced a substantial delay between symptom onset and TB diagnosis despite the presence of active TB symptoms and persistent care seeking.

They sought care a median of 3 [IQR 2-5] times before TB testing and experienced a median diagnostic delay of 4 [IQR 3-6] months between symptom onset and TB diagnosis.

The patient care pathway consisted of three distinct phases:

i. Care-seeking,
ii. Diagnosis, and;
iii. Treatment.

Seven categories emerged across the three phases, each representing a potential barrier to the diagnosis and treatment of TB: delayed TB diagnosis (sub-categories: prolonged care-seeking, financial burden, and turning to sorcery), fear of TB, TB-associated stigma, financial distress, food insecurity, enduring isolation (sub-categories: psychological distress and social setbacks), and adherence anxiety.

Each of these barriers was exacerbated among PLHIV. In particular, PLHIV feared that the TB diagnosis would cause others to suspect them of having HIV, and result in inadvertent status disclosure and further stigmatization.

Conclusions: To our knowledge, this is the first qualitative study to explore barriers to the diagnosis and treatment of TB in Côte d'Ivoire. Throughout each phase of the care pathway, individuals with TB persist and persevere de-

spite enormous challenges. There is a need for strategies to alleviate their burden, to improve the early recognition and diagnosis of TB, and to address TB-associated stigma. Research to develop and implement social protection strategies for individuals diagnosed with TB should be prioritized.

EP1106

Prevalence of HIV drug resistance among clients on dolutegravir-based regimens with viral non-suppression – Tanzania, 2023

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Background: Introduced in 2019, now over 90% of HIV clients receive DTG-containing antiretroviral regimens. Monitoring emerging resistance to DTG is important for the long-term efficacy of DTG-containing regimens.

We report interim findings from the first laboratory-based HIV drug resistance (HIVDR) surveillance activity in Tanzania among children and adults with unsuppressed HIV viral load (VL) conducted between April-September 2023.

Methods: Remnant plasma specimens from routine HIV VL tests were collected from nine purposively selected, high-volume reference laboratories throughout Tanzania. All specimens from clients with unsuppressed HIV VL (≥1,000 RNA copies/mL) taking DTG-containing regimens for ≥9 months during the surveillance period were eligible for genotyping.

Client demographics and clinical history were extracted from a national HIV clinical database. HIV-1 protease and reverse transcriptase (PRRT) and integrase (IN) genes were amplified and genotyped using ThermoFisher HIV-1 Genotyping Kit with Integrase; sequences were interpreted using the Stanford HIV Drug Resistance Database (v9.5.1).

We report proportions of clinically significant HIVDR among children (<15 years) and adults (≥15 years) with completed INT and PRRT genotypes, weighted to account for incomplete genotype data in this interim analysis.

Results: A total of 388 eligible pediatric samples and 919 eligible adult samples were identified during the surveillance period. Among 207 (53.4%) children with a completed IN genotype, 6.2% (95% confidence interval (CI): 13.6-10.4) had DTG resistance.

Among 56 (14.4%) children with a completed PRRT genotype, 34.2% (95% CI: 22.6-48.1) had NRTI-class resistance, 35.5% (95% CI: 23.7-49.5) had NNRTI-class resistance, and 3.5% (95% CI: 0.9-13.3) had PI-class resistance. Among 381 (41.5%) adults with a completed IN genotype, 5.3% (95% CI: 3.4-8.1) had DTG resistance.

Among 244 (26.6%) adults with a completed PRRT genotype, 6.9% (95% CI: 4.4-10.8) had NRTI-class resistance, 21.4% (95% CI: 16.6-27.0) had NNRTI-class resistance, and 3.8% (95% CI: 2.1-7.0) had PI-class resistance. Mutations identified affecting DTG efficacy included E138A/K, G118R, Q148K/R, G140A, R263K, S147G, T66A/I/K, and N155H.

Conclusions: Interim analysis showed that prevalence of DTG resistance among children and adults with unsuppressed HIV VL was low and comparable to other countries in sub-Saharan Africa. Our findings indicated DTG-containing regimens remain effective in treating HIV in Tanzania.

EP1107

Determinants of communities' access to HIV health services in rural Zimbabwe: evidence from community led monitoring programme in Zimbabwe

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Background: This paper analyses the determinants of people's access to immunodeficiency virus (HIV) health services in rural Zimbabwe where Global Fund to Fight AIDS, Tuberculosis and Malaria (GF) funded CLM program is implemented since 2021. FACT Zimbabwe as a sub recipient (SR) of GF and its partners are among the pioneers of CLM in Zimbabwe. District selection was on the basis of inclusivity in terms of geographical representation and implementing partner.

Description: About, 1.3 million Zimbabweans were living with HIV in 2021 amid declining prevalence rate in the general population. However, rural communities, women and key populations remain disproportionately burdened by HIV. In this context FACT Zimbabwe is implementing community led monitoring (CLM) to foster access improvements, accountability and advocacy. CLM data is collected from service users by community health monitors and is analyzed to draw insights on barriers to HIV health services quarterly. Findings are shared at facility and district levels with resolutions and action points for improvements. Any unresolved issues at facility and district levels are escalated to provincial and national levels.

Lessons learned: Access to HIV services in rural Zimbabwe comes with hidden costs such as transport costs and walking long distances with 44.2% reported traveling over 5km to health facilities. Distance decay is more pronounced with HIV testing services (HTS). The longer the distance the less likely that people will seek HTS services compromising early diagnosis and treatment. This is compounded by opportunity cost arising from long waiting time due to inadequate staff.

Furthermore, key populations such as sex workers and men who have sex with men (MSM), also have limited access to quality services due to elevated stigma and discrimination in rural settings.

Conclusions/Next steps: Access to HIV services in rural Zimbabwe is fraught with hidden costs that discourage services seeking like transport cost, long distances, opportunity costs and elevated discrimination of PLHIV and key populations. Low availability and frequent stockouts of medicines and commodities further compromise access to HIV health services.

Next Steps

- Advocate for increased human resources and uninterrupted supply of medicines.
- Advocate for decentralization of health centres and HIV testing points to increase accessibility of the services.

EP1108

Towards precision public health in HIV prevention: Leveraging smartphone GPS data to understand activity spaces for young adults in rural KwaZulu-Natal, South Africa

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Background: Precision public health approaches aim to deliver targeted, personalized public health interventions. Given persistently high HIV rates in rural South Africa, we used time-stamped and contextually-linked, ultra-high resolution smartphone GPS data to evaluate the activity spaces of young adults in an HIV hyper-endemic setting, with the goal of developing precise HIV prevention interventions.

Methods: Between 2021-2023, the study enrolled a random sample of young adults aged 20-30 years from the AHRI population-based cohort. Participants received a smartphone with the study app or installed the app on their own devices, which recorded GPS locations at regular intervals over the six-month study period.

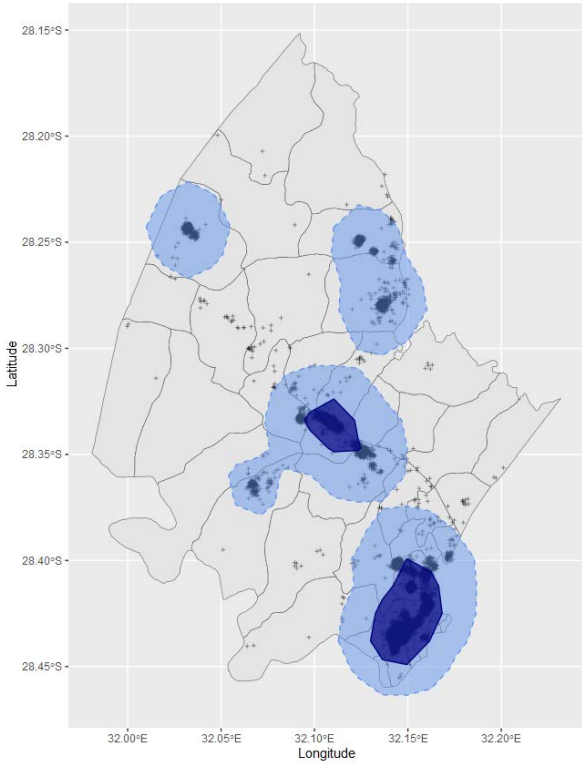
Location data was analyzed to construct individual 'activity spaces', conceptualized as the individual's home range and represented by the utilization distribution (UD), derived using kernel density estimation. UD is a spatial probability density function used to estimate the probability of finding an individual at a particular location within their home range.

We estimated home range sizes at the 50%, 95%, and 99% contour levels and calculated the degree of spatial overlap between each participant's UD and high HIV prevalence areas.

Results: In total, 202 individuals contributed a median 74,865 (IQR 28,410 – 183,672) locations.

Median home range area was 1.5 km^2 (IQR 0.3-4.5) at 50% contour, 15.5 km^2 (5.0–39.8) at 95% contour, and 39.6 km^2 (18.5–105.1) at 99% contour.

Spatial overlap of the 95% home range with a geographic area of high HIV prevalence was found for pver one third of participants (39.1%).



Conclusions: Activity spaces, analogous to home ranges in ecology, can be quantified at granular detail using smartphone GPS. Understanding dynamic patterns of movement and time spent in certain locales, coupled with ecological momentary assessments, can help design HIV prevention interventions through behavior, social or structural support that is precise in time, space, and epidemiological context.

Late-breaker oral abstracts

OAA01 Targeting the HIV reservoir: Emerging discoveries and novel interventions

OAA0106LB

Defective HIV-1 proviruses recombine to restore infectious virus: a new barrier to cure

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Background: Recent studies have shown that "defective" HIV-1 proviruses are capable of transcription and translation into proteins. This study was designed to directly investigate whether these "defective" proviruses can recombine to regenerate replication-competent virus.

Methods: We established a model system using two defective HIV-1 proviruses derived from a person with HIV (PWH), each containing distinct large internal deletions: a 3'-deleted provirus with a 3.8 kb internal deletion missing the *vif*, *vpr*, *vpu*, *tat*, *rev*, *env*, and *nef* regions, and a 5'-deleted provirus with a 3.3 kb deletion missing the *gag* and *pol* regions.

Notably, the precursor frequency of full-length intact HIV-1 proviruses in the PWH was 1 in 697 sequences (~0.1%), based on analysis of autopsy tissue specimens. Primary CD4+ T cells from HIV-negative donors were co-transfected with pNL4-3 plasmids containing synthesized inserts representing the 3'- or 5'-deleted HIV-1 proviruses.

Viral production was assessed by measuring p24 antigen levels and examining viral particle morphology via transmission electron microscopy (TEM).

HIV-1 infectivity was evaluated through four rounds of *in vitro* passaging. Single-genome amplification (SGA) and full-length HIV-1 sequencing were used to characterize recombination events.

Results: We demonstrate for the first time that two defective HIV-1 proviruses can recombine to regenerate a fully replication-competent virus. Co-transfection resulted in robust p24 production (1,100 ng/mL at day 7 post-transfection) and successful infection of primary CD4+ T cells (9,900 ng/mL at day 7 post-infection). Sequence analysis revealed recombination events restoring intact open reading frames and correcting deleterious large internal deletions. Critically, the emergent viruses replicated with kinetics comparable to wild-type HIV-1.

These findings show that defective proviruses, once thought to be biologically inert "dead-end" products, can actively contribute to viral persistence and reservoir replenishment.

Conclusions: Recombination between defective HIV-1 proviruses represents a novel and active mechanism of viral evolution, with direct implications for cure strategies, and may help explain the source of delayed viral rebound in some rare cases following ART interruption. Strategies for HIV-1 eradication must consider the potential for defective genomes to recombine and regenerate infectious virus, posing a new and significant barrier to achieving durable remission.

OAA03 Advances in HIV vaccine platforms

OAA0306LB

Cross-clade HIV-1 neutralizing antibodies with characteristics of bNAbs in pediatric populations of humans and rhesus macaques

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Background: Induction of HIV-1 envelope (Env)-reactive broadly neutralizing antibodies (bNAbs) is a primary goal of a prophylactic HIV-1 vaccine. There is a dearth of bNAbs from pediatric populations that may be used to inform immunogen design for their induction and maturation in infants and children through vaccination.

Methods: We assessed HIV-1 neutralization breadth in 13 young rhesus macaques (RMs) following clade C SHIV infection during infancy and 47 children with perinatally acquired clade B HIV-1.

We isolated Env SOSIP-trimer reactive B cells from blood of representative subjects with broad and potent responses. Recombinant monoclonal (m) Abs with paired variable heavy (V_H) and light (V_L) genes per B cell were functionally characterized and visualized for Env-interaction via negative stain electron microscopy.

Results: Of 13 SHIV-infected RMs, 62% developed plasma heterologous HIV-1 NAbs. We isolated two clonally-related mAbs (DH1518.1 and DH1518.2) that used V_H4-NL-22 (17 amino acid (aa) complementarity-determining-region-3/ HCDR3) and V_K2-X from one RM at month 14 post-infection. The DH1518 mAbs neutralized ~13% of 119 difficult-to-neutralize/ tier 2 multiclade HIV-1 strains (Geometric mean, IC50: ~8-11µg/ml) and mapped to a discontinuous epitope partially occluded by glycans and span V2-apex, V3-glycan and CD4-binding site (BS) bNAb epitopes.

Additionally, 34% of children with HIV-1 showed heterologous tier 2 HIV-1 NAbs. We isolated two mAbs, DH1668 and DH1669, from B cells sampled at 3.5 years-of-age of a child who developed neutralization breadth at one year-of-age. The mAbs DH1668 used V_H3-21 (28aa-long HCDR3) and V_K1-33, and DH1669 used V_H3-33 (5aa-long HCDR3) and V_L4-69, and mapped to CD4BS and V3-glycan bNAb

epitopes, respectively. Compared to DH1668, DH1669 had maximal neutralization activity against 37% (11/30) of multiclade isolates (Geometric mean, IC50: 0.25µg/ml), and neutralized 40% (4/10) of breastmilk-derived clade C isolates. All isolated mAbs were derived from subdominant B cell subsets in subjects studied.

Conclusions: We defined pediatric cross-clade HIV-1 NAbs that target bNAb epitopes, thus implicating that they may be matured over time with appropriate vaccine immunogens.

Ongoing studies will identify additional NAbs in infant RMs and humans to inform immunogen design for early-life prophylactic bNAb-inducing HIV-1 vaccines—a potential strategy for ending the HIV-1 pandemic.

OAA04 From cells to systems: The power of omics in HIV research

OAA0406LB

Increased systemic inflammation and plasmacytoid dendritic cells in people living with HIV with history of cured pulmonary TB

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Background: In Haiti, people living with HIV who have history of TB have increased all-cause mortality despite virologic suppression and TB cure (Joseph, 2021). Our objective was to assess for the post-TB immunologic profile in people living with HIV.

We hypothesized that people with history of TB have enduring elevated inflammatory cells and cytokines which contribute to worse outcomes after TB.

Methods: Peripheral blood mononuclear cells were collected from people living with HIV who participated in an observational study on TB recurrence at GHESKIO Centers in Port au Prince, Haiti between 2019 and 2023.

We completed Cellular Indexing of Transcriptomes and Epitopes by Sequencing (CITE-Seq) of peripheral blood mononuclear cells (PBMC) of people living with HIV with (n=6) or without (n=3) TB history. Analyses of CITE-Seq data included differential gene expression, principle components analyses, and pathways analyses.

We completed confirmatory dendritic cell subtyping with flow cytometry and plasma cytokine quantification using an 18-plex Th1/Th2 panel on an expanded group of people (n=29).

Results: There were more than 40 differentially expressed genes in the T lymphocyte, B lymphocyte, natural killer cell, and dendritic cell populations. In each of these immune subtypes, the Hallmark gene set "regulated by NF-kB in response to TNF" was over-represented.

In the dendritic cell subset there was over-representation of pathways important for response to TB: response to hydrogen peroxide, oxidative stress, and reactive oxygen species in the 68 differentially expressed genes. In the expanded cohort of 29 people with HIV, there was a larger percentage of plasmacytoid dendritic cells by flow cytometry and increased plasma IL-6, IL-12p70, IL-15, IL-2, IFN-alpha, and TNF in the TB history group (n=18) compared to people with no history of TB (n=11).

These findings remained statistically significant when assessed with Mann-Whitney non-parametric tests and with tobit logistic regression to account for left censoring with and without sex included as a covariate.

Conclusions: A pro-inflammatory milieu and immune cell gene expression changes mediated by TNF persist after TB cure for people living with HIV. If the differences are preexisting risk factors or establish during the natural history of HIV and TB is still to be determined.

OAA05 Basic science highlights: Cutting-edge research and implications

OAA0506LB

Impact of AGT103-T on the HIV proviral reservoir: insights from a modified IPDA in a phase 1 study

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Background: HIV cure research is challenged by the persistence of the replication-competent proviral reservoir. Our hypothesis is that AGT103-T, a gene therapy designed to protect and boost HIV-specific immune cells, reduces this reservoir.

To accurately assess this effect, we developed a modified Intact Proviral DNA Assay (IPDA) that distinguishes HIV sequences from the AGT103 lentiviral vector.

Methods: In our FDA-approved Phase 1 study, HIV-positive subjects received AGT103-T infusions. Longitudinal peripheral blood samples were collected before and after infusion, including during analytical treatment interruptions (ATIs) that allowed evaluation of viral rebound dynamics in a clinical setting. Our modified IPDA, using primers and probes targeting conserved HIV regions absent in the AGT103 lentiviral vector, quantified both intact and defective proviral DNA in CD4+ T cells.

Results: In all evaluable subjects (n=5), our modified IPDA demonstrated a significant reduction in intact proviral DNA following AGT103-T treatment. For example, one subject's baseline intact proviral level of approximately 1,664 copies per million CD4+ T cells decreased to undetectable levels by 500 days post-infusion, with suppression sustained for up to two years.

Notably, while intact proviral DNA declined markedly, defective proviral DNA levels remained unchanged throughout the study. All subjects underwent ATI, which provided valuable insights into the suppression of viral rebound.

Conclusions: These early findings suggest that AGT103-T therapy may reduce the replication-competent HIV reservoir in people living with HIV. While promising, these re-

sults should be interpreted with caution given the study's limitations (small sample size and variability in ATI timing among participants). Additional trials with larger populations and optimized ATI timing are necessary to further evaluate the clinical efficacy of this immune-regulatory strategy.

OAB01 ART strategies

OAB0105LB

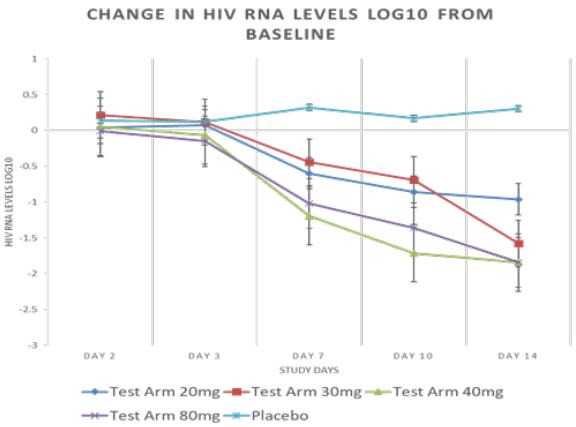
Promising new therapeutic option for HIV - next generation HIV-1 investigational protease cleavage site (maturation) inhibitor, HRF-10071 - phase 2 results

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Background: HRF-10071 is a new generation protease cleavage site inhibitors that inhibit viral maturation by blocking cleavage of the Gag capsid (CA) precursor, CA-SP1, to mature CA protein. Dose escalating studies (single ascending dose & multiple ascending dose) evaluated in healthy adult human participants. HRF-10071 exposures (C_{max} and AUC) were dose proportional (linear) from 20mg to 160mg and found to be safe and well tolerable. Here we report the outcome of the Phase 2 Proof of Concept study carried out among PLHIV.

Methods: Phase 2 (Proof of Concept) study conducted at 15 sites across India. This study was a double blind, parallel, placebo-controlled study evaluated antiviral effect, safety and tolerability of HRF-10071 20mg, 30mg, 40mg and 80mg dose levels over 14 days of treatment period.



Results: Overall, 30 people (25 males & 5 females) with baseline BMI of 22.4 - 25.3 kg/m^2, median viral load of 31923 - 89632 copies/mL and CD4 count of 397 - 495 cells/mm^3 enrolled. HIV RNA levels decreased significantly from Day 7 onwards in all dose levels. HRF-10071 doses 20mg, 30mg, 40mg & 80mg have shown -0.98, -1.56, -1.84, -1.76 HIV RNA Log10 change from baseline to Day 14 respectively.

The change in HIV RNA levels was statistically significant compared with placebo. Pharmacokinetic profile in study participants is similar to that of healthy people (dose proportional) with steady state reaching between 7-10 days on QD regimen.

Overall, 10 adverse events (9 grade 1 & 1 grade 2) reported in this study were not related to tested compound. No grade 3 or 4 or Severe AEs reported. No patient discontinued due to AE/SAE.

Conclusions: HRF-10071 is a novel potent protease cleavage site inhibitor. Study results have shown significant viral load reductions. This could be a future treatment option for people living with HIV along with other anti-retroviral agents.

OAB0106LB

Systematic review and meta-analysis of the efficacy of intermittent antiretroviral therapy dosing: a crisis response to the sudden cuts in USAID and PEPFAR funding

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Background: Antiretroviral therapy (ART) shortages due to sudden, severe USAID and PEPFAR funding cuts are predicted to cause millions of HIV-related deaths and new acquisitions. We assessed the efficacy of intermittent ART dosing, which could extend supplies and mitigate this crisis.

Methods: We systematically reviewed PubMed, MEDLINE and ClinicalTrials.Gov. Randomised controlled trials (RCTs) comparing intermittent triple ART taken 3-6 days-per-week versus daily ART in people with HIV-1 of any age were included. Studies with high risk of bias were excluded. 48-week efficacy (HIV viral load (VL) >50 copies/mL) was meta-analysed. Highly-sensitive VL; treatment-emergent drug resistance and inflammation (interleukin-6, d-dimer and highly-sensitive C-reactive protein) were descriptively analysed. This was supplemented by a rapid scoping review of observational studies.

Results: Seven RCTs were included; three evaluated INSTI-inclusive regimens. In total 1286 virologically supressed non-pregnant people with HIV without hepatitis B , with

high CD4 counts and no virologic failure or drug resistance history, were included. RCTs investigated 3, 4 and 5 days-per-week intermittent ART. There was no difference in efficacy [Risk Difference -0.00; 95%CI -0.02-0.02; *P*=0.86]: overall 21/643 (3%) experienced HIV RNA >50 copies/mL with intermittent ART versus 22/643 (3%) with daily ART. Viremia was typically low-level, with re-suppression after adherence counselling and/or return to daily dosing. Where evaluated, there was no difference in highly-sensitive VL or inflammation markers, and satisfaction with intermittent dosing was high.

Overall 9/14 (64%) successfully-genotyped participants with VL >50 copies/mL had treatment-emergent resistance with intermittent ART versus 12/16 (75%) with daily ART, predominantly in lower-genetic-barrier regimens. Five observational studies of 3-6 days-per-week triple ART were identified; HIV VL>50 copies/mL occurred in 6/374 (2%) participants at 48 weeks.

RCT	Strategy	ART regimen	HIV RNA >50 copies/mL; intermittent, n/N (%)	HIV RNA >50 copies/mL; daily, n/N (%)	Resistance**; intermittent, n/N	Resistance**; daily, n/N
BREATHER	5 on, 2 off	NNRTI	6/99 (6%)	7/100 (7%)	2/3	5/6
Reynolds et al.***	5 on, 2 off	NNRTI	5/57 (9%)	9/56 (16%)	4/4	5/7
Sun et al.	5 on, 2 off	B/F/TAF	0/30 (0%)	1/31 (3%)	NA	-
QUATUOR	4 on, 3 off	Triple ART	6/318 (2%)	4/318 (1%)	3/6	2/3
ATAD	Alternate	NNRTI	3/99 (3%)	1/98 (1%)	0/1	-
A-TRI-WEEK	3 on, 4 off	NNRTI	0/30 (0%)	0/30 (0%)	NA	NA
BETAF-RED	3 on, 4 off	B/F/TAF	1/10 (10%)	0/9 (0%)	-	NA

ART = antiretroviral therapy; NNRTI = non-nucleoside reverse transcriptase inhibitor; B/F/TAF = bictegravir/emtricitabine/tenofovir alafenamide; NA = not applicable; - = not reported. *When 4 or 5 days per week dosing is employed, continuous ART is given for these days and then no ART for the rest of the week. When 3 days-per-week dosing is used, the days off ART are not continuous but are instead alternate. **Resistance = treatment-emergent drug resistance. Resistance n/N = number of individuals with mutations conferring resistance to study drugs/ number of reported successfully-genotyped individuals with HIV RNA >50 copies/mL.*** Reynolds et al.: The primary endpoint was changed during the study from <50 copies/ml to <400 copies/ml to eliminate the inclusion of low-level viral blips.

Table 1 - Summary of efficacy (assessed through HIV RNA >50 copies/mL at 48 weeks) and treatment-emergent drug resistance in randomised controlled trials of intermittent versus daily triple antiretroviral therapy.

Conclusions: For countries with urgent drug shortages, evidence supports intermittent dosing 4 to 5 days-per-week to extend ART supplies, with clinical benefits for people with HIV and continued population benefits of minimising HIV transmission.

OAB02 A multitude of complications

OAB0206LB

A5391: a randomized multicenter 3-arm controlled trial for people with obesity on integrase inhibitors and tenofovir alafenamide switching to doravirine, with or without tenofovir disoproxil fumarate (The DO-IT Trial)

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Background: Excessive weight gain has been associated with integrase inhibitors (INSTI) and tenofovir alafenamide (TAF). ACTG A5391 evaluated whether switching to doravirine (DOR; a non-nucleoside reverse transcriptase inhibitor) with or without a switch to tenofovir disoproxil fumarate (TDF) would alter weight in people with HIV and obesity on INSTI+TAF regimens.

Methods: A phase IV, 48-week, 3-arm, open-label, multicenter randomized trial to assess whether switch from an INSTI (bictegravir, dolutegravir, or raltegravir) with TAF/emtricitabine (TAF/FTC) to either DOR+TAF/FTC or DOR+TDF/FTC results in a ≥5% point between-group difference in body weight change (a clinically relevant effect), compared to continuing current INSTI+TAF/FTC. We used linear regression, adjusting for sex and race, to estimate treatment effects.

Results: 145 participants in the US were randomized to change to DOR+TAF/FTC (n=47), DOR+TDF/FTC (n=49), or continue current treatment (n=49). At entry, median age was 49 years; BMI 34.9 kg/m^2; time on INSTI+TAF/FTC 3.4 years; 49% were female, 53% Black, and 18% Hispanic/Latino.

Estimated mean change in weight at 48 weeks was -0.47% (95% confidence interval [CI]: -2.09,1.14) for DOR+TAF/FTC, -2.73% (-4.22,-1.23) for DOR+TDF/FTC, and -1.84% (-3.37,-0.30) for continued INSTI+TAF/FTC. The DOR vs. INSTI (both with TAF/FTC) estimated mean difference was +1.36% points (p=0.23), and the DOR+TDF/FTC versus INSTI+TAF/FTC estimated mean difference was -0.89% points (p=0.41; Figure).

Weight treatment difference 97.5% CI limits were < 5% points. There was not evidence that treatment differences varied by subgroups, including by race or sex. For hip bone mineral density, estimated mean differences were

+0.78% points (p=0.19) and -0.64% points (p=0.27), respectively. The observed median change in creatinine clearance was 4.9% in DOR+TAF/FTC, 7.4% in DOR+TDF/FTC, and 0.4% in INSTI+TAF/FTC.

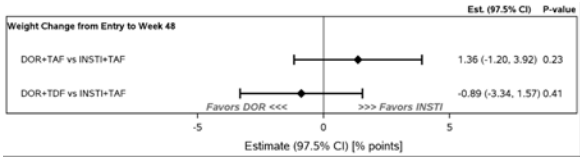


Figure. Treatment difference in body weight change between DOR and INSTI arms at 48 weeks.

Conclusions: In people with HIV and obesity, switching from an INSTI+TAF/FTC regimen to doravirine/FTC with either TAF or TDF did not result in substantial weight change at one year, including among women and Blacks.

OAB03 Special issues in paediatrics

OAB0306LB

PedMAb1 trial: safety of two broadly neutralising antibodies, CAP256V2LS and VRC07-523LS, administered singly or concurrently at birth and 3 months to breastfeeding HIV-1 exposed neonates and infants born without HIV

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Background: PedMAb aims to develop a promising strategy using broadly neutralising antibodies (bNAbs) to interrupt postnatal HIV transmission via breastmilk, which still contributes significantly to paediatric HIV infections in high HIV-prevalence settings. We report on safety and pharmacokinetic (PK) data of 2 anti-HIV-1 bNAbs, CAP256V2LS and VRC07-523LS, administered concurrently to neonates for the first time at delivery and 3 months.

Methods: Forty HIV-exposed infants born without HIV (HEI) received escalating doses of either CAP256V2LS (arms 1, 2, 3: 5, 10 or 20 mg/kg) or VRC07-523LS (arms 4, 5: 20 or 30 mg/kg) subcutaneously (SC), within 96 hours from birth. Following a safety assessment and PK population analysis 8 infants (arm 6/6b) received a fixed dose of CAP256V2LS (60mg) and VRC07-523LS (90mg) within 96 hours (dose 1) and 120mg of either bNAb at 3 months (dose 2).
Infants were observed for 2-4 hours or 1 hour after each dose in arm 6/6b, and seen at days 1, 3, 14 and 28, then monthly until end of follow-up. Internal and external safety committees reviewed safety and PK data monthly and biannually, respectively.
Results: Reactogenicities at 4 hours and over the first 3 days post-dose were observed in 5/24 and 7/16 infants receiving CAP256V2LS or VRC07-523LS, respectively; and in arm 6/6b in 4/8 and 1/8 infants after dose 1 and 2, respectively. 117 Adverse Events (AEs) were reported in 24 infants receiving CAP256V2LS, 82 in 16 infants receiving VRC07-523LS; 43 and 54 AEs were reported in 8 infants of arm 6/6b after dose 1 and 2, respectively.
Overall, AEs were grade 1 or 2, except for five grade 3 and two grade 4. In arm 6/6b possibly related AEs were low absolute neutrophil count (n=5) and anaemia (n=1), and one probably related case of irritability. All infants were clinically well, and AEs resolved spontaneously.
Conclusions: CAP256V2LS and VRC07-523LS are safe when administered alone and in combination to HEI. Phase 2/3 trials are needed to investigate the efficacy of bNAbs to interrupt vertical HIV transmission, thus increasing the armamentarium against postnatal HIV transmission and creating an HIV-free paediatric population. Progress has been hampered by current global development.

OAB04 HIV treatment and prevention in pregnancy

OAB0406LB

Foetal growth in pregnant women living with HIV: longitudinal analysis of serial ultrasound measurements in South Africa

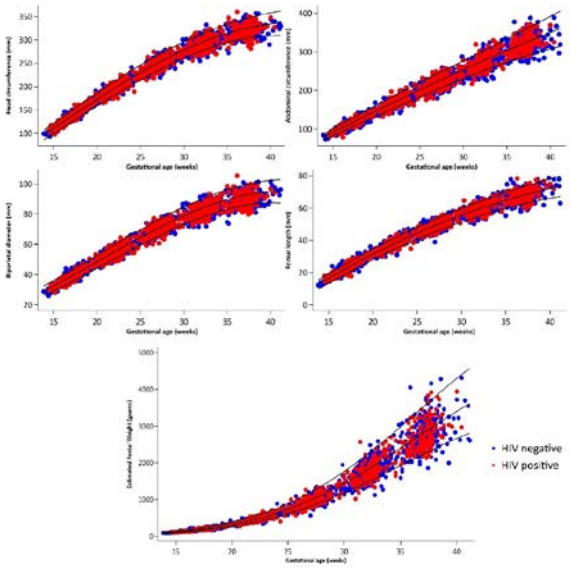
D.N.K. Darji[1], I. INTERBIO-21st Consortium[2,3], S. Norris[4], E. Ohuma[5], J. Hemelaar[1]

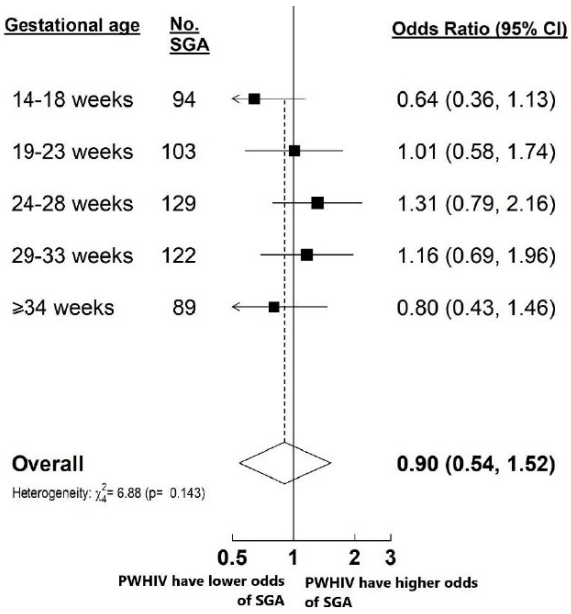
[1]University of Oxford, Nuffield Department of Population Health, Oxford, United Kingdom, [2]Oxford Maternal & Perinatal Health Institute, Green Templeton College, Oxford, United Kingdom, [3]University of Oxford, Nuffield Department of Women's & Reproductive Health, Oxford, United Kingdom, [4]University of Witwatersrand, MRC-Wits Developmental Pathways for Health Research Unit, Johannesburg, South Africa, [5]London School of Tropical Medicine and Hygiene, c Centre for Maternal, Adolescent, Reproductive, and Child Health, London, United Kingdom

Background: Pregnant women with HIV (PWHIV) are at increased risk of delivering babies that are small for gestational age (SGA). We aimed to determine the antenatal foetal growth trajectories of pregnant women with HIV (PWHIV), compared to HIV-negative women.

Methods: In a prospective pregnancy cohort study in Soweto, South Africa, in 2013-2016, serial ultrasound measurements of head circumference (HC), biparietal diameter (BPD), abdominal circumference (AC), and femur length (FL). Multivariable linear mixed effects models were used to estimate differences in mean foetal growth measures and mean foetal growth velocity increments according to maternal HIV status. Z-scores and centiles for all parameters were calculated according to the INTERGROWTH-21st standards for foetal growth. Multivariable mixed effects logistic regression was used to examine the association of maternal HIV acquisition with in-utero SGA and very SGA.

Results: Ultrasound measurements of 228 PWHIV receiving ART and 384 HIV-negative pregnant women, with a median of five antenatal ultrasound scans per women, were analysed.





There were no significant differences in mean foetal growth measures and growth velocity increments between foetuses of PWHIV and HIV-negative women. The prevalence of SGA ranged between 14.2-26.4% for PWHIV and 18.5-24.1% for HIV-negative pregnant women during different gestation windows. There was no significant association between maternal HIV acquisition and in-utero SGA or VSGA.

Conclusions: Maternal HIV acquisition treated with ART was not associated with altered foetal growth, foetal growth velocity, or in-utero SGA, compared to HIV-negative women. Our findings support international clinical guidelines recommending ART for PWHIV to improve maternal health and reduce vertical HIV transmission.

OAB05 Tuberculosis: From research to the field

OAB0506LB

Inpatient initiation of TB preventive therapy with one month of isoniazid and rifapentine for adults with advanced HIV disease and cryptococcal meningitis: results of the IMPROVE randomised controlled trial

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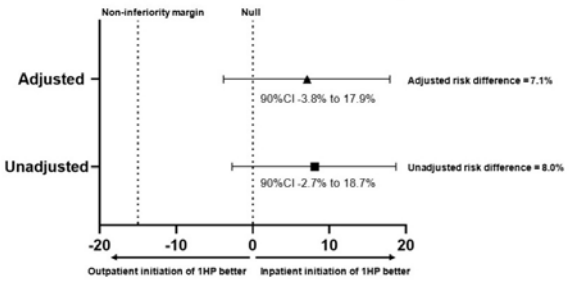
Background: Tuberculosis preventive therapy (TPT) coverage for persons with advanced HIV disease is poor. Due to advanced immunosuppression, adults with cryptococcal meningitis have 12-month mortality following hospital discharge up to 78%; tuberculosis (TB) is common and preventable, and likely contributes to poor patient outcomes. Innovative delivery strategies to increase TPT provision and uptake are needed for this high-risk population.

Methods: In this phase-3, multi-site, open-label, non-inferiority randomised controlled strategy trial, we randomised adults with HIV-associated cryptococcal meningitis and no evidence of active TB disease in a 1:1 ratio to inpatient initiation of 1HP (one month of daily rifapentine plus isoniazid) prior to hospital discharge, or outpatient initiation at 6-weeks (standard of care).

The primary end point was TB-disease free survival and 1HP treatment completion at 18-weeks, based on a 15% noninferiority margin and one-sided 95% confidence interval (CI).

Results: Of 205 randomised participants, 69.9% (72/103) with inpatient 1HP initiation had TB-disease free survival and 1HP treatment completion at 18-weeks vs. 61.8% (63/102) in the outpatient 1HP arm (adjusted risk difference 7.1% 95%CI -5.9% to 20.1%). No significant differences existed in any secondary endpoints when comparing inpatient vs. outpatient 1HP initiation, including: grade 3 or higher and serious adverse events (risk difference -2.4% 95%CI -15.8% to 11.0%); drug induced liver injury (risk difference 0.4% 95%CI -to -7.9% to 8.7%); incident TB disease (risk difference -5.4%, 95%CI -13.4% to 2.6%); and 18-week survival (adjusted risk difference 1.9%, 95%CI -8.0% to 11.8%).

Risk difference in TB disease free survival and 1HP treatment completion at 18 weeks after cryptococcal meningitis diagnosis



Conclusions: 1HP initiation prior to hospital discharge was non-inferior to outpatient initiation of amongst adults with advanced HIV disease and cryptococcosis. These data indicate that following exclusion of active TB disease, inpatient 1HP initiation is feasible and safe.

OAC01 From PrEP to harm reduction: Scaling up comprehensive HIV prevention strategies

OAC0106LB

PrEP provision in bars *vs*. primary care: a cluster RCT among 780 female bar workers in Dar es Salaam, Tanzania

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Background: In many countries in Africa, adolescent girls and young women (AGYW) are disproportionally affected by HIV and may thus benefit from HIV pre-exposure prophylaxis (PrEP). Female bar workers (FBWs) are AGYW who are at particularly high risk of HIV acquisition, because they often engage in transactional sex. However, FBWs, commonly lack easy access to PrEP because of their work schedules, high mobility and stigma.

We report primary outcomes from a cluster-randomized controlled trial (cRCT) of bar-based PrEP vs. the standard-of-care, which is primary care-based PrEP for FBWs in Dar es Salaam, Tanzania.

Methods: 112 bars were cluster-randomized (cR1) to receive PrEP promotion, eligibility screening, initiation, and monthly refills in the bars *vs*. PrEP promotion in the bars but all other PrEP functions in primary care clinics, the current standard-of-care in Tanzania.

All FBWs who initiated PrEP were further individually randomized (R2) to receive *vs*. not receive adherence support through a PrEP champion. We followed up with trial participants monthly over six months, including urine-based Tenofovir disoproxil fumarate (TDF) testing at months 2 and 6.

We report the proportion of FBWs who took up, adhered to, were lost to follow-up and dropped out of PrEP in each trial arm. We used modified-Poisson regression to calculate risk ratios (RR) and 95% confidence intervals (CI). The trial was registered with the German Clinical Trials Register (DRKS00018101).

Results: Of the 1,017 FBWs in the participating bars, 780 agreed to be screened and 439 were eligible and consented to participate in the trial. When offered PrEP, initiation was 75% in the bar-based vs. 27% in the primary care-based arm (RR 2.79, 95%CI: 2.26-3.47).

Adherence, loss to follow-up, and drop-out were not significantly different between the trial arms over the follow-up period of six months.

Conclusions: Bar-based PrEP provision for FBWs substantially boosted PrEP uptake. Once FBWs received care, their adherence and retention did not differ between the trial arms. Offering PrEP in bars, and similar workplaces, should be considered as a policy in Tanzania and other countries in Africa to increase PrEP uptake among key populations in the HIV response.

OAC02 Destination zero new acquisitions: Hailing a CAB to PrEP success

OAC0206LB

Evaluating CAB-LA concentration and breastmilk transfer in postpartum PrEP: results from the Tshireletso PK substudy

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Background: Initiating long-acting cabotegravir (CAB-LA) for pre-exposure prophylaxis (PrEP) on the maternity ward after delivery is an efficient strategy to engage young women and prevent HIV in mothers and breastfeeding infants.

However, there is a paucity of data on the pharmacokinetics (PK) of CAB-LA started immediately post-partum and infant exposure through breastfeeding.

Methods: ‚Tshireletso' evaluated the implementation and safety of CAB-LA PrEP within 14 days of delivery. CAB-LA was injected IM at enrollment, 1 month, then every two months. Samples were collected just before the 1 month injection (1m), 1 week later (1m+1wk), just before the 5 month injection (5m) and 1 week later (5m+1m). Plasma and whole breastmilk concentrations of CAB were measured using a liquid chromatography-tandem mass spectrometry (LC-MS/MS) assay. Relative infant dose (RID) [estimated infant dose via breastmilk (mg/kg/day)/adult dose (mg/kg/day)] was calculated using average milk intake of 150 mL/kg/day, observed breastmilk concentrations, adult IM CAB dose (600mg q56d) and measured maternal and infant weights.

	1 month (trough) median (range)	1 month + 1 week (peak) median (range)	5 month (trough) median (range)	5 month + 1 week (peak) median (range)
Maternal Plasma CAB concentration (ng/mL)	941 (322,6980)	1980 (580,9820)	1875 (1030,3050)	2480 (1800,7080)
Breastmilk CAB concentration (ng/mL) *quantitative limit (QL) for breastmilk = <0.977ng/mL	14.6 (2.5,89)	29.8 (6.7,143)	27.4 (10.8,129)	36.1 (17.2,108)
Infant Plasma CAB concentration (ng/mL) *quantitative limit (QL) for plasma =<39ng/mL	33.2 (16 below QL, 638)	69.2 (5 below QL, 933)	85.3 (5 below QL, 226)	92.1 (1 below QL, 365)
Relative infant dose of CAB (% of maternal dose, mg/kg/day)	1.6% (0.2%,6.3%)	2.8% (0.6%,10.1%)	2.2% (1.1%,9.5%)	3.3% (1.7%,7.7%)

Table 1. Cabotegravir concentrations in maternal, infant and breastmilk samples over time after initiation of maternal CAB-LA injections for PrEP.

Results: Data from 27 lactating women and their breastfed infants with all specimens from ≥two time points were included. Median maternal plasma, breastmilk and infant plasma CAB concentrations at 1m, 1 m+1wk, 5m and 5 m+1wk were highly variable and increased over time (Table 1). Seventy-four percent of maternal CAB concentrations were >4x PA-IC90 (664ng/mL) at 1m, and all but 1 (from 1m+1wk) exceeded this threshold at all other timepoints. Median (IQR) breastmilk to plasma ratio of CAB was 1.4% (1.1%, 1.9%). Infant CAB concentrations were greater than 1x PA-IC90 (166ng/mL) in 13.7% of samples. The overall median (IQR) RID was 2.5% (1.6%, 4.5%).

Conclusions: CAB reached protective levels within 1 week after the second dose in nearly all breastfeeding mothers. Breastmilk concentrations of CAB-LA were low, with estimated median RID below the <10% threshold, and all infant levels less than 1000 ng/mL. These findings support the safety of CAB-LA use during breastfeeding, reinforcing its potential as a viable PrEP strategy in the postpartum period.

OAC04 The emerging landscape of PrEP choice

OAC0406LB

The impact of long-acting lenacapavir on adolescent girls and young women in Kenya: a mathematical modeling study

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Background: Current oral pre-exposure prophylaxis (PrEP) for HIV has not achieved its full potential, largely due to challenges with adherence and consistent use. To improve uptake and effectiveness, alternative delivery methods are needed. Lenacapavir, a long-acting injectable administered twice yearly, offers a promising solution.

We used modeling to assess the potential impact of lenacapavir on HIV outcomes among high-risk adolescent girls and young women (AGYW) in Kenya.

Methods: We used a deterministic transmission-dynamic compartmental model of HIV infection calibrated to Kenya to simulate PrEP implementation scenarios. Oral PrEP, introduced in 2018, was assumed to be used exclusively by HIV-negative girls aged 15–24 at high risk (≥5 partners/year) reaching 4.6% coverage by 2025.

Starting in 2026, we assumed a national switch in Kenya to long-acting injectable lenacapavir with 5 possible trajectories: (1) maintaining 2025 coverage levels, or increasing to (2) 15%, (3) 30%, (4) 45%, or (5) 57% coverage by 2030.

We also modeled a comparator scenario in which there is no switch to lenacapavir and no scale-up beyond 2025 oral PrEP coverage levels. Oral PrEP was assumed to be 75% effective and lenacapavir 100% effective in preventing HIV infection. We assessed the median and interquartile range (IQR) of new HIV cases and cumulative cases averted over 30 years across the 25 best-fitting parameter sets.

Results: The greatest impact of lenacapavir among AGYW was observed at higher coverage levels. At 57% coverage, lenacapavir was estimated to avert 11,904.93 (9,293.73 -17,027.33) new HIV cases, representing an 18.82% (18.34%–19.62%) reduction compared to oral PrEP.

However, switching to lenacapavir alone without scaling up coverage had minimal effect—at 4.6% coverage, the percent reduction in HIV acquisition was only 0.58% (0.57%–0.61%). A modest increase to 15% coverage averted 2,974.52 (2,322.97 - 4,274.46) HIV cases, while scaling to 30% averted approximately 6,445.65 (5,036.58 - 9,248.84) cases.

Conclusions: These results emphasize the importance of not only transitioning to long-acting PrEP but also expanding coverage to achieve meaningful reductions in HIV incidence among AGYW. Lenacapavir has the potential to significantly reduce the burden of HIV among adolescent girls and young women if coverage can be effectively scaled up.

OAD01 Centring mental health in the HIV response

OAD0106LB

Effectiveness of the TENDAI integrated therapy for depression and adherence to HIV medication delivered by lay adherence counsellors in Zimbabwe: results from a randomized controlled trial.

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Background: Depression increases the risk that people will have poor adherence to antiretroviral therapy (ART) and HIV viral non-suppression. It is unknown if psychological interventions delivered by lay counsellors can improve mental health and HIV outcomes.

We conducted a 2-arm parallel-group randomized controlled trial testing whether the TENDAI psychological intervention was effective for addressing viral non-suppression, depression, and ART adherence.

Methods: 280 adults living with HIV aged ≥18 years with probable depression (Patient Health Questionnaire, PHQ-9, ≥10) and viral non-suppression (≥1000 HIV copies per ml) were recruited from rural and urban clinics in Zimbabwe and randomized. People in the intervention arm received TENDAI, a culturally adapted 6-session problem-solving and motivational intervention, combining depression treatment with focus on adherence, delivered by lay adherence counsellors.

People in the control arm received enhanced usual care (EUC). TENDAI versus EUC comparisons were estimated using logistic regression (viral suppression), linear mixed-effects models (PHQ-9 and Wilson self-report adherence), and generalized estimating equations (GEE) logistic regression (second-line ART use, a post hoc outcome). Cost-effectiveness was estimated using Quality-Adjusted Life-Years (QALYs) derived from the EQ-5D-5L.

Results: Retention at 12 months was 91%. PHQ-9 depression scores were 4.3 points lower in the TENDAI arm compared to EUC at 4 months (95% CI -5.4, -3.2, p<0.001) and 2.2 points lower at 12 months (95% CI -3.3, -1.2, p<0.001). Self-reported adherence was significantly higher in the TENDAI arm at 4 months (mean difference 5.2 points, 95% CI 2.5, 7.9, p<0.01) and at 12 months (mean difference 4.2 points, 95% CI 1.2, 7.2, p<0.01).

There was no significant difference in viral suppression between TENDAI and EUC arms. However, TENDAI participants had 70% lower odds of being prescribed second-line ART at 12 months (OR 0.3, 95% CI 0.1, 0.7, p<0.01). QALYs were significantly higher, and costs lower, in the TENDAI arm, providing evidence of cost-effectiveness.

Conclusions: This is the first trial demonstrating that an intervention delivered by lay adherence counsellors achieved sustained improvements in depression symptoms and self-reported adherence. People receiving TENDAI were more likely to remain on first-line ART. These promising results, including favorable cost-effectiveness, support implementing TENDAI in routine HIV care in low-resource settings.

OAD02 Health equity in challenging times: Threats and opportunities

OAD0206LB

Redressing resource inequities and advancing the right to health: a rights-based approach to HIV, TB and STI service access in South Africa

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Background: Section 27(1) of the South African Constitution guarantees every person the right to access healthcare services, including reproductive health services. Yet systemic inequities, especially in public health financing, supply chain continuity and service delivery persist as structural barriers. With 87% of the population reliant on an underfunded public system that receives less than half of the national health budget, rights violations are entrenched.

This abstract presents lessons from community and civil society-led initiatives advocating for equitable access to HIV, TB and STI services through a human rights-based lens.

Description: This analysis draws on qualitative inputs from multisectoral advocacy meetings, service delivery audits, and structured community dialogues conducted between 2022 and 2024 across five under-resourced districts in South Africa. Facilitated by coalitions of civil society, healthcare users and frontline providers, the dialogues explored gaps in supply chains, viral load monitoring, medicine stockouts and systemic delays in clinical service delivery.

These findings were triangulated with public expenditure data and civil society-led shadow budget reviews, emphasizing youth, key populations and people living with HIV.

Lessons learned: Persistent underfunding and fragmented planning in public health have undermined HIV/TB/STI service delivery, particularly affecting continuity of ARV supply and viral load monitoring. Disparities in healthcare financing where 51% of expenditure benefits only 14% of the population have deepened inequality. Community-led monitoring exposed critical data gaps, while civil society advocacy pushed for greater accountability in budget allocation. Deprivation-linked stigma further alienates vulnerable groups from accessing care. Yet, community organizations remain underfunded, threatening the sustainability of their work.

Conclusions/Next steps: A human rights-based health response must include structural reforms to financing, improved transparency, equitable resource distribution, and integration of deprived communities into planning processes.

Scaling community-led accountability, policy advocacy, and investment in grassroots actors are essential to make rights to health not only aspirational but real. Public-private parity in resource allocation must be central to closing the treatment gap.

OAD03 Innovative community approaches to HIV prevention, care and rights

OAD0306LB

Enhancing PrEP uptake through stigma reduction: results from the PrEPUp! quality improvement collaborative in Malawi

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Background: While stigma toward People Living with HIV (PLHIV) is well documented, limited research addresses stigma associated with pre-exposure prophylaxis (PrEP). As part of a quality improvement collaborative (QIC) within the Blantyre Prevention Strategy, PrEPUp! implemented provider and client assessments of PrEP-related stigma and identified drivers of low uptake to inform targeted quality improvement (QI) interventions.

Methods: An 11-item standardized tool, developed by Blantyre Department of Health and UCSF HEALTHQUAL, assessed domains including privacy, respect, clinic environment, fear of HIV labeling, and PrEP decision-making. Sample sizes for nine public facilities were calculated based on outpatient volume, with systematic sampling used to select participants. Hospital ombudsmen and

Health Surveillance Assistants administered surveys using REDCAP. QI coaching facilitated data use for design of stigma-reduction strategies.

Results: Between June–December 2024, 797 clients (64% of projected sample) completed the survey. Most clients reported comfort discussing PrEP with providers (91%) and no discrimination from providers or staff (91%). However, 89% were counselled to be monogamous, 22% had to initiate PrEP discussions themselves, and 17% feared stigma associated with PrEP use. All clients described clinics as welcoming and providers as respectful; nevertheless, 10% reported receiving inadequate health information. Significant variation was observed across facilities related to routine offering of PrEP.

Conclusions: Findings reveal persistent stigma and inconsistent PrEP service delivery in Blantyre. While many facilities offer supportive environments, many patients are required to initiate PrEP discussions and monogamy is promoted, reflecting ongoing need for provider sensitization to enhance patient engagement.

Interventions are needed to standardize offering of PrEP within public health facilities; stigma-related barriers need to be addressed. Embedding stigma reduction within QI processes offers a practical approach to reducing stigma and strengthening PrEP uptake.

OAD04 Climate change, mobility and HIV

OAD0406LB

The intersection of climate change and health: investigating the association of drought and HIV prevalence in Kenya

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Background: The intersection of climate change and public health, including the impacts of droughts, floods, high temperatures, and migration, is a critical yet underexplored area, particularly in the context of HIV/AIDS. Limited findings have associated droughts with adverse health outcomes and disruptions to public health programs.

The aim of this study was to examine the relationship between climate-induced droughts and HIV prevalence in Kenya.

Methods: This study utilized nationally representative data including biomarker testing for participants from the 2019 Kenya Population-Based HIV Impact Assessment (KENPHIA) survey. Drought conditions were quantified using precipitation data from the Climate Hazards Group InfraRed Precipitation with Station Data (CHIRPS). The association between drought and HIV prevalence as measured by biomarker testing was analyzed using weighted binary logistic regression models, accounting for the complex survey design and weights.

Results: The analysis included 31,032 participants examining sociodemographic factors, sexual behaviors, and climate variables. Nearly half of the respondents (47.2%) had experienced drought.

The majority of participants who tested positive for HIV (58.2%) resided in drought-affected areas compared to those in non-drought areas. Those who resided in drought-affected areas had significantly higher odds of testing positive compared to those who had not experienced drought.

High-risk sexual behaviors such as transactional sex and intergenerational partnerships were significantly associated with HIV prevalence. Lower educational attainment and food insecurity were significantly associated with increased odds of testing positive for HIV.

Conclusions: We found that participants who had experienced droughts were more likely to test positive for HIV. This may be because droughts exacerbate socio-economic vulnerabilities, such as food insecurity and migration, which can increase high-risk behaviors and reduce access to healthcare services.

In light of this, these findings underscore the compounded risks of climate change on public health, emphasizing the need for integrated strategies that address both climate adaptation and HIV prevention.

OAD05 "I will not lower my voice": Experiences from trans and gender-diverse communities

OAD0506LB

Mpox awareness and access barriers among transgender and intersex communities in Kenya

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Background: In early 2025,Kenya confirmed Mpox cases across multiple conties. Mpox is rarely discussed in the context of gender diverse communities. Transgender and intersex communities already facing systemic stigma and healthcare discrimination were potentially at high risk due to overlapping vulnerabilities and limited access to accurate health information.

This project is aimed to assess Mpox knowledge and health seeking behaviour among these populations.

Description: Around February to March 2025, series of grassroot led Mpox sensitisation session were conducted in Nairobi's informal settlements targeting transgender and the intersex persons.

Activities included peer led group discussions, one on one outreach both in person and digital platforms. Special attention was given to correcting misinformation, recog-

nising Mpox symptoms and how different they are to the other health conditions and addressing barriers to seeking care particularly fear of judgement and prior negative experiences in health facilities.

Lessons learned: After the surveys it was revealed that 85% of the participants had never received Mpox related information and many confused with other skin related conditions common among people living with HIV. Intersex too expressed heightened fear due to social invisibility and legal misrecognition despite Kenya's 2022 legal recognition of intersex as a gender. Peer led education improved trust significantly, knowledge uptake and willingness to discuss symptoms openly. However, access to Mpox screening and referrals through county level outreaches remains limited and were often perceived as unsafe due to integration with general services.

Conclusions/Next steps: Community specific Mpox interventions must be integrated into national health responses using rights based and inclusive frameworks. Health workers need training on gender diversity to reduce stigma in service provision.

Future steps include scaling up safe space outreaches, decentralising Mpox information materials and including the transgender and intersex voices in preparedness planning and surveillance efforts.

OAD06 Harnessing technology: Digital health applications

OAD0606LB

Co-designing trust: community voices in building an AI companion for HIV prevention

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Background: Adolescent girls and young women (AGYW), Female Sex Workers (FSW), and individuals who sell sex but do not self-identify as sex workers (i.e. on the edge of sex work (EoSW)) in southern Africa face persistent barriers to HIV prevention and care. Digital health solutions using artificial intelligence (AI) offer promise, but their effectiveness depends on user trust, relevance, and meaningful engagement.

This abstract shares formative and summative findings from the participatory design and testing of the "Self-Care from Anywhere" (SCFA) Companion—an AI-powered conversational tool co-created with AGYW, FSW, and EoSW to support HIV prevention and care, and explores how a priority populations'–driven design process contributed to an accessible, trustworthy, and engaging tool.

Description: In South Africa, co-design included structured focus groups with AGYW during a workshop, followed by informal conversations and mini-feedback sessions at mobile service points, such as clinics. These engagements validated concepts and informed refinements to content, tone, and features. Insights from both phases guided iterative usability testing.

Summative methods included structured observations and usability surveys with 90 AGYW aged 15–24. In Zimbabwe, a two-day workshop worked with FSW, EoSW, clinicians, peer microplanners, and government officials to inform early-stage design for EoSW and FSW. At both sites, participants shaped chatbot tone, content, language, and privacy features.

Lessons learned: Co-design through interactive workshops and real-time prototype engagement led to significant improvements in design and functionality. In South Africa, repeated feedback loops refined tone, navigation, and privacy features (e.g., emojis, fake names), contributing to a System Usability Scale score of 88.1. In Zimbabwe, early engagement identified core needs like local language support and stigma-free referrals. Importantly, co-design extended beyond initial development.

Continuous monitoring and updates based on user interactions continue to enhance usability and trust. This ongoing co-design approach now includes live demos, embedded feedback capture, and localized content updates as standard practice.

Conclusions/Next steps: Sustained, inclusive co-design is essential for digital tools that resonate. There is strong demand for trusted, context-aware AI companions sup-

porting HIV and SRH. Next steps include ongoing feedback loops, engagement tracking, regional language support, and adapting workflows to diverse contexts.

OAE01 Advancing equity in the HIV response: Key populations, human rights and quality intervention

OAE0106LB

Empowering young female sex workers in coastal Kenya: a community-led approach to HIV prevention through peer education and digital reminders (2023–2024)

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Background: In Kenya's coastal counties of Mombasa, Kwale, and Kilifi, young female sex workers (YFSWs) are at high risk for HIV/AIDS due to stigma, economic instability, and limited healthcare access. In 2023, a strategic initiative integrated digital health systems with peer-led programs.

The new platform includes a calendar for quarterly screening reminders and facilitates ongoing peer education, aiming to improve healthcare access and continuity for high-risk groups.

Description: The initiative helped young female sex workers (YFSWs) access HIV prevention services through a digital platform that sent quarterly screening reminders, addressing forgetfulness and logistical barriers. Peer educators provided ongoing education via messaging apps on topics like condom use and PrEP, fostering trust and engagement. Support networks allowed YFSWs to connect and share experiences, empowering them in managing their health and promoting sustainable health-seeking behaviors.

Lessons learned: The integration of digital tools with peer-led HIV prevention strategies has significantly benefited young female sex workers (YFSWs) in Kenya's coastal counties, particularly Mombasa, Kwale, and Kilifi. By the end of the program, over 78% of YFSWs accessed HIV testing regularly, and 60% reported consistent condom use.

A digital reminder system improved health screening adherence, with peer educators using WhatsApp and Facebook to provide culturally relevant education, leading to an 80% increase in knowledge about HIV prevention.

However, challenges in digital access remained, as only 80% had reliable mobile data, despite 98% owning phones. Collaboration with local health systems was crucial, resulting in 85% of YFSWs receiving effective referrals to clinics for follow-up care, highlighting the effectiveness of combining digital tools with health services.

Conclusions/Next steps: This peer-led, digitally enabled approach has improved HIV prevention among young female sex workers by enhancing service continuity and community engagement. Mobile reminders and peer education have increased access to health services and reduced stigma.

Future goals include scaling the model, improving digital access, and expanding engagement in various spaces. Real-time data systems will aid responsive programming. With ongoing funding, this model is a cost-effective strategy for equitable, community-led HIV prevention, contributing to efforts to end AIDS as a public health threat.

OAE02 No retreat, no surrender: Sustaining the HIV response in times of turmoil

OAE0204LB

Assessing the impact of USG funding cuts on Zambia's HIV programming: a retrospective review of PrEP and VMMC uptake (2024–2025)

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Background: Zambia has made strides in reducing the HIV burden with incidence having declined from 0.61% in 2016 to 0.31% in 2021 among the general population aged 15-49 years (ZAMPHIA).

Zambia's commitment to curb HIV has seen roll-out of programs such as Voluntarily Medical Male Circumcision (VMMC), oral and injectable Pre-exposure prophylaxis (PrEP). These programs have expanded rapidly largely due to the support from the United States Government (USG). This analysis assesses the impact of USG funding disruptions on PrEP and VMMC in Zambia.

Description: A retrospective analysis of secondary data from DHIS2, the Ministry of Health's national data system, was conducted to assess uptake in oral PrEP and VMMC services, comparing Q1 2024 to Q1 2025.

The analysis focused on quarterly changes in uptake across geographies with cross-tabulations and trend analysis used to identify performance implementation gaps and emerging patterns.

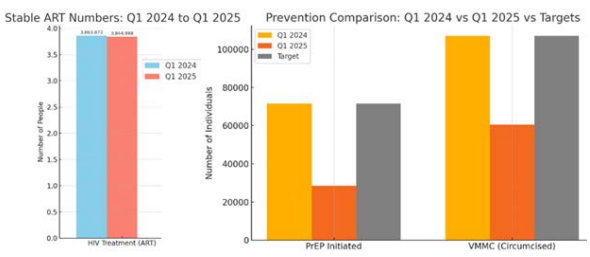


Figure.

Lessons learned: The HIV treatment program showed stability compared to the sharp declines in prevention. Between January-March 2024 and the same period in 2025, the number of individuals on ART declined marginally by just 0.5% (from 3,863,872 to 3,844,998).

In contrast, oral PrEP initiations dropped from 71,608 in Q1 2024 to 28,230 in Q1 2025, a 60.6% decrease. This performance was 51% below the quarterly target of 58,120. VMMC services saw a similar drop from 107,034 individuals in Q1 2024 to 60,546 in Q1 2025, a 43.4% decline, achieving just 49.5% of the quarterly target of 144,589.

Conclusions/Next steps: USG funding cuts have disrupted Zambia's HIV prevention programs, particularly in USAID-supported provinces, leading to reduced uptake of PrEP and VMMC, threatening broader epidemic control. Urgent action is needed to assess the full impact of the disruptions to inform government-led efforts to sustain services through domestic resource mobilization, reprioritization to ensure continuity, and robust monitoring systems to build resilience against external shocks

OAE0205LB

From vertical to domestic: transition readiness of National HIV responses in 14 countries in Africa

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Background: Following the halt of U.S. government funding in January 2025, the HIV Leadership Forum—comprising Director Generals of 40 national AIDS commissions—conducted a rapid transition readiness survey across 24 sub-Saharan African countries to gauge service continuity, systems resilience and available transition assets. Fourteen countries (58%) responded by mid-April, via a 46-indicator Microsoft-Forms assessment, analyzed descriptively in Excel.

Description: *Service-delivery:* All countries reported operational public-health facilities and governments quickly integrated antiretroviral (ART) dispensing into OPD departments. PMTCT services remained functional in 83% of nations. However, 75% of NGO/community sites closed, disrupting 90% of prevention programs.

Systems: All countries reported data interruptions in facility and national health information tied to NGO-managed servers or licenses. ART client transfers occasionally occurred without records. Laboratory networks faced similar vulnerabilities.

Commodities: While 65% of countries had nine-month ARV and testing commodity stocks, half held <6-months of prevention-specific ARVs or condoms. Supply chain disruptions varied, though 8 countries indicated internal distribution breakdowns.

Human Resources: Donor-funded staff attrition totaled 123,668 across 12 countries, including 60% frontline clinical workers (nurses, doctors, lab staff) and 44,502 community volunteers. Contractual complexities hindered retention efforts.

Governance: Governments issued service-continuity directives, repurposing HIV clinics and initiating domestic funding. Countries with partial control over procurement, logistics, and data systems experienced milder disruptions.

Transition assets identified: embedding HIV services in universal health coverage schemes, leveraging private/faith facilities for co-payment models, expanding data interoperability, aligning community-social services, and strengthening AIDS commissions stewardship.

Lessons learned: Decades of significant HIV systems investments collapsed, underscoring the fragility of donor-dependent structures and the protective role of integrated national platforms. Public facilities struggle with sudden ART client influxes amid system disruptions. The attrition of 60% frontline health workers risks care quality, while prevention collapses demand urgent cross-sector models targeting at-risk populations. Reported commodity stocks are residual from pre-January shipments, thus, urgent domestic investments are needed.

Conclusions/Next steps: Governments demonstrated rapid adaptation and now transition stewardship is required. Immediate priorities include: ecosystem audits to resolve client data gaps; revised commodity forecasts reflecting new client distributions; redesigned, cross-sector prevention models; partnerships with PLHIV networks and private sector; workable HR retention solutions; and sustained political advocacy for domestic resources

OAE03 Zero AIDS-related deaths: Scaling up advanced HIV disease response

OAE0306LB

Examining unmet PrEP need and PrEP equity among young people using pooled data from three African countries, October 2023-September 2024

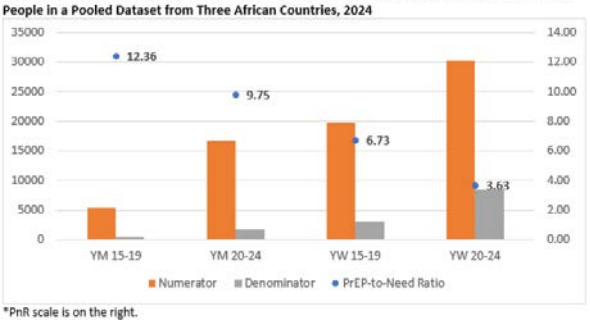
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Background: HIV disproportionately affects young women (YW) compared to men (YM) ages 15-24 in eastern and southern Africa (ESA), with YW incidence 2-4 times that of YM. To examine HIV pre-exposure prophylaxis (PrEP) access relative to need for young people, we measured PrEP-to-Need (PnRs) and PrEP Equity Ratios (PER) pooled across three countries in ESA.

Methods: We used aggregate data from 345 ICAP-supported facilities, October 2023-September 2024. PnR numerators reflect PrEP access and denominators approximate PrEP need; lower PnRs indicate more unmet need. PERs assess equity of PrEP access relative to need between groups, with PER=1 indicating equity. PnRs were operationalized using PEPFAR monitoring and reporting indicators as [annual PrEP_NEW (new PrEP initiations) + Q1 PrEP_CT (PrEP continuations)]/annual HTS_TST_POS (new HIV diagnoses) disaggregated by sex and age. PERs were PnRs for YW divided by YM and 20-24 divided by 15-19.

Results: YW PnRs (15-19: 6.73; 20-24: 3.63) were lower than YM's (15-19: 12.36; 20-24: 9.75) suggesting YW had less PrEP access relative to need. The sex PER=0.42, demonstrating a 58% gap in PrEP access relative to need for YW compared to YM. PnRs were lower for 20-24-year-olds compared to 15-19-year-olds, suggesting less PrEP access relative to need in this older group. The age PER=0.63, demonstrating a 37% gap in PrEP access relative to need for 20-24-year-olds compared to 15-19-year-olds.
While YW PrEP access (PnR numerator) was greater for each age group, the larger YM PnRs were driven by lower new HIV diagnoses (denominator). Larger 15-19 PnRs were also driven by lower new diagnoses.

Figure 1. PrEP-to-Need Ratios and PrEP-to-Need Ratio Numerators and Denominators for Young People in a Pooled Dataset from Three African Countries, 2024



*PnR scale is on the right.

Conclusions: In this pooled data, YW have 58% less PrEP access relative to need than YM, and 20-24-year-olds had 37% less PrEP access relative to need than 15-19-year-olds. We recommend increased efforts to provide PrEP for YW and 20-24-year-olds. PnRs and PERs are important metrics for evaluating PrEP scale-up.

Methods: *PrEPared to Choose* (PtC) is a phase 3b study nested within the *FASTPREP* implementation study in Cape Town, South Africa. It evaluates uptake of oral pre-exposure prophylaxis (tenofovir disoproxil fumarate/emtricitabine), the dapivirine vaginal ring, and CAB-LA among AGYW aged 15–29 years and their male partners. At enrolment, participants selected one of the available PrEP options. BMI was measured at baseline to guide CAB-LA needle selection (21G, 2-inch for BMI ≥30; 23G, 1.5-inch for BMI <30). BMI was categorised using WHO definitions and described by age, sex, and PrEP choice. Among participants who received ≥2 CAB-LA doses, mean BMI change over seven months was calculated. Multivariate regression was used to assess associations between baseline BMI and PrEP choice, and to evaluate BMI change over time.
Results: Over half of participants (56%, 657/1,164) were overweight or had obesity at baseline (BMI ≥25 kg/m²), including 30% classified as having obesity (BMI ≥30 kg/m²). Among those with elevated BMI, 76% were female and 81% were under 29 years of age.
The proportion of female participants increased with obesity severity: 74% in class I, 87% in class II, and 93% in class III. Baseline BMI was not associated with PrEP product choice (aOR 1.23; 95% CI: 0.76–2.01). Among 612 participants who received at least two CAB-LA doses, mean BMI decreased slightly over seven months (mean change -0.021; 95% CI: -0.034 to -0.009; p=0.001), while no meaningful change was observed in those who received fewer or no doses.
Conclusions: Short-term CAB-LA use was not associated with weight gain. The high baseline burden of obesity underscores the opportunity to integrate obesity care into HIV prevention platforms.

OAE04 Accelerating integration in a new operating environment

OAE0406LB

Investigating adolescent-friendly HIV prevention platforms as novel spaces for obesity interventions

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Background: South Africa has built strong youth-focused HIV prevention platforms through sustained investment. In contrast, research and services addressing obesity remain limited despite rapidly rising rates, particularly among adolescent girls and young women. This overlap presents an opportunity to leverage HIV prevention platforms for integrated interventions addressing both HIV and obesity.
We describe the baseline prevalence of obesity in a real-world PrEP programme for young people and evaluate the short-term impact of long-acting cabotegravir (CAB-LA) on body mass index (BMI).

OAE06 Revolutionizing HIV: AI, equity and the next frontier

OAE0606LB

Building a safe, accurate AI companion: lessons from the Field

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Background: "Self-Care from Anywhere" (SCFA), a multimodal AI tool including large language models (LLMs) and computer vision, is now in the hands of adolescent girls and young women (AGYW) in South Africa. This marks a milestone in a region where stigma, multilevel barriers, and high HIV burden challenge traditional prevention strategies. As similar tools emerge, early field learnings from the SCFA Companion offer valuable insights into performance and value of AI as an efficient way to provide services in an era of drastically shrinking resources for HIV prevention.

Description: SCFA delivers private, on-demand HIV support to AGYW through an AI-powered WhatsApp chatbot that conducts risk assessments and provides tailored education, self-testing guidance, relationship advice, and seamless connection to real clinicians—reducing stigma and closing access gaps. A clinician-facing portal supports care with AI-verified test results,, and outreach tools. The platform was developed through cross-organizational collaboration and supported by human-in-the-loop review, and is designed to be scalable, customizable, and interoperable with existing digital systems. Evaluation areas include youth engagement and priority topics; clinical accuracy and local relevance of LLM outputs; AI-generated, data-rich handoffs to clinicians when needed; clinical support utility; the feasibility of using structured data for ML-based HIV risk models; and early cost-per-interaction analysis.

Lessons learned: Preliminary results show that built-in mechanisms effectively limited AI-generated inaccuracies, though hallucination rate data are still under analysis. Safety triggers were successful in identifying and addressing potentially harmful content. RAG functionality and the inclusion of slang understanding enhanced responsiveness and contributed to contextual accuracy, though further refinement is ongoing.

Third, clinician feedback highlighted that AI-generated summaries and test verification improved triage, though handoff processes between the chatbot and clinician will benefit from further streamlining, as many client requests for a human could have been handled by the chatbot.

Ongoing costs are outweighed by benefits of user trust, interaction quality that provides greater access to care.

Conclusions/Next steps: This early deployment underscores the promise of AI tools like the SCFA Companion as scalable, cost-effective innovations for HIV prevention. Ongoing work will refine safety, accuracy, engagement and adaptability features while evaluating long-term performance and economic outcomes.

OAS01 Co-Chair's choice

OAS0102LB

The impact of the U.S. funding interruption on HIV services and the HIV epidemic in Mozambique

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Background: Mozambique has the 8th highest global HIV prevalence. ART is available in 97% of health facilities and serves approximately 2.1 million of the 2.4 PLHIV. However, the country relies heavily on external funds to ensure HIV service provision, with the U.S. covering approximately 93% of the country's expenses, mainly through PEPFAR. In January 2025, the U.S. government issued an executive order suspending almost all foreign aid programmes for 90 days.

We aimed to assess the impact of this order on HIV service provision and predict the impact of potential fund interruption on the HIV epidemic in Mozambique.

Methods: To evaluate the impact of the executive order on HIV service provision, we used the country's district health information system to compare selected health services indicators in February 2024 and February 2025. We analysed the absolute variation and relative change in ART initiation and viral load cascade performance in these time points.

To predict the impact on the HIV epidemic, we used a published dynamic HIV transmission and disease progression model (Optima) calibrated to Mozambique data to compare the trend before January 2025 to a counterfactual scenario with funding interruption, assuming a stagnation in the scenario observed in February 2025. We simulated the impact of funding interruption on HIV incidence and HIV-related mortality until 2030.

Results: Comparing February 2024 to 2025, there was a 25% reduction in ART initiation in adults (>=15 years), from 22,865 to 17,105. Among those on treatment, there was a 38% reduction (37,010) in viral load tests performed, a 37% reduction (27,656) in test results received, and a 33% reduction (22,043) in viral suppression.

In children (<15 years), these indicators were 44%, 71%, and 43%, respectively, showing a disproportionate impact on paediatric population.

The funding interruption was estimated to cumulatively increase 90,522 (23% more than the status quo) new HIV infections and 28,631 (33%) HIV-related deaths by 2030.

Conclusions: The findings highlighted the immediate negative impact of the U.S. funding freeze on HIV service outcomes and the potential alarming effect on the HIV epidemic, in case the funding interruption is sustained. Funding is urgently needed to mitigate these negative impacts.

OAS0103LB

Modelling the impact of cuts in PEPFAR funding for HIV pre-exposure prophylaxis among key populations in sub-Saharan Africa

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Background: In January 2025, the US government issued a directive, pausing all foreign aid programmes. This included a 90-day pausing of all US President's Emergency Plan for AIDS Relief (PEPFAR) funding for HIV pre-exposure prophylaxis (PrEP) except for pregnant women, with a return to funding for key populations (KPs) looking increasingly pessimistic. We estimated the impact of a funding pause for PrEP among KPs in Sub-Saharan Africa (SSA).
Methods: We developed a HIV transmission model incorporating PrEP, parameterised using systematic reviews of population size estimates, HIV prevalence and incidence. We used PEPFAR reporting on numbers of each KP returning for PrEP in Jul-Sep 2024 as the estimated number using PrEP provided by PEPFAR. For each country and KP, we estimated the proportion of HIV-negative KPs receiving PrEP through PEPFAR and modelled the relative and absolute increase in new HIV infections resulting from removing this PrEP over the next year.
Results: By late 2024, 191,541 KP individuals across 27 SSA countries received PrEP funded through PEPFAR. The estimated proportion of HIV-negative KP individuals receiving PrEP through PEPFAR ranged from 1.3% (95% credibility interval: 1.0-1.8) among people who inject drugs (PWID) to 5.5% (4.5-6.6) among female sex workers (FSW). Stopping PEPFAR's provision of PrEP could lead to 4,577 (3,398-5,757) additional new HIV infections over 1-year; 2,215 (1,367-2,866) among men who have sex with men (MSM), 1,838 (1,198-2,763) among FSW, 350 (186-617) among transgender women (TGW), and 154 (53-232) among PWID. This corresponds to relative increases in new HIV infections of between 0.7% (0.2-1.1) among PWID to 3.1% (1.9-4.0) among MSM, with country-level increases estimated to exceed 5% in 7 countries for MSM, 2 countries for PWID, and 6 countries for TGW and FSW.
Conclusions: Mitigation measures, including funding through alternative international donors or domestic government budgets, are needed to prevent the detrimental impact of PEPFAR's funding cuts for PrEP, particularly in high coverage countries.

OAS0104LB

Short cycle antiretroviral therapy (ART) with weekends off is inferior to continuous ART in adolescents living with HIV receiving tenofovir disoproxil fumarate/lamivudine/dolutegravir (TLD) in sub-Saharan Africa: BREATHER Plus 96-week results

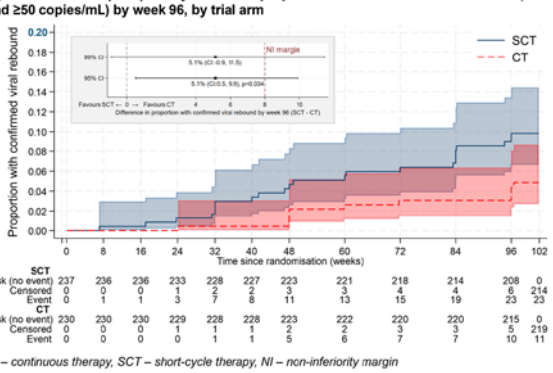
A. Kekitiinwa[1], A. Jennings[2], M. Bwakura Dangarembizi[3], C. Kityo[4], A. Siika[5], M. Archary[6], L. Jafta[7], G. Akabwai[1], M. Chitsamatanga[3], S. Nakabuye[4], C. Kiilu[5], R. Mngqbisa[6], A. Green[2], J. Seeley[8], H. Mugerwa[4], S. Walker[9], N. Apoto[1], D. Burger[10], S. Salomone[2], A. South[2], C. Giaquinto[7], A. Bamford[2], M. Thomason[2], D. Ford[2], S. Pett[2], BREATHER Plus trial team
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Background: Short-Cycle Therapy (SCT) with 4/5 sequential days-on ART, 2/3 days-off ART has previously shown non-inferior virological outcomes versus daily ART. Most data are in adults with frequent real-time viral load (VL) testing; dolutegravir-based SCT data are limited.
Methods: BREATHER Plus was a non-inferiority, 96-week trial in Kenya/South Africa/Uganda/Zimbabwe. Adolescents (12-19years), suppressed (VL<50copies/mL) on tenofovir disoproxil fumarate/lamivudine/dolutegravir (TLD), with no prior treatment failure, were randomised to continue daily ART (CT) or switch to SCT (5 days-on, 2 days-off). The primary outcome was the adjusted Kaplan-Meier estimated proportion with confirmed VL ≥50copies/mL by week 96. The non-inferiority margin and significance level depended on the CT event rate (8% margin, 99%CI for 5% event rate). Routine 6-12 monthly VLs were used for participant management; SCT participants with real-time confirmed VL ≥50copies/mL returned to CT. Additional 8-12 weekly VLs were measured retrospectively. A MEMScap sub-study (n=210) in Uganda/Kenya captured ART bottle openings across weeks 8-32 and 48-72. We present 96-week data.
Results: 470 (239 SCT, 231 CT) participants were enrolled [263(56%) female, median age 16.5years (IQR:14.6-18.1), prior ART duration 11.8years (IQR:8.6-14.1)]. At week 96, 98% remained in follow-up. 23(10%) SCT vs. 11(5%) CT participants had confirmed VL ≥50copies/mL, difference SCT-CT 5% (99%CI: -0.9,11.5); an 8% higher rate of virological rebound in SCT was not rejected (Figure).

At the 5% significance level, SCT was inferior to CT (p=0.034). 1 SCT and 2 CT participants changed ART regimen for AEs. Proportions with cross-sectional VL<50copies/mL at week 96 were similar [215(93%) SCT, 211(93%) CT]. 14 SCT and 14 CT participants experienced ≥1 SAE (p=0.938).

In the MEMSCap sub-study, 93% and 92% of expected tablets were taken in SCT and CT respectively, although in both groups only 71% of weeks were fully adherent to strategy.

Figure: BREATHER plus primary outcome - proportion with confirmed viral rebound (viral load ≥50 copies/mL) by week 96, by trial arm



CT – continuous therapy, SCT – short-cycle therapy, NI – non-inferiority margin

Conclusions: TLD-based SCT cannot be recommended for adolescents living with HIV, using 6-12 monthly VL monitoring.

OAS0105LB

Long-acting cabotegravir and rilpivirine in adults with suboptimal HIV control in sub-Saharan Africa: the IMPALA trial 48-week results

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Background: In sub-Saharan Africa, 1.3 million people taking oral antiretroviral therapy (ART) are not virally suppressed. Long-acting (LA) treatment may benefit those with adherence challenges. We investigated the efficacy and safety of LA cabotegravir (CAB) and rilpivirine (RPV) in a population previously non-adherent to oral ART.

Methods: IMPALA (NCT05546242) is a multicentre, open-label, randomised, non-inferiority trial in Uganda, Kenya and South Africa. Participants had recent HIV-1 viral load (VL) >1000 copies/ml or poor engagement in care. Viral suppression (<200 copies/ml) on dolutegravir-based therapy was required prior to randomisation. Participants were randomised 1:1 to receive 2-monthly CAB+RPV-LA or to continue oral therapy.

The primary endpoint was the proportion with VL <50 copies/ml at 48-weeks in the intention-to-treat-exposed population (by FDA snapshot algorithm, -10% non-inferiority margin).

Secondary endpoints included confirmed virological failure (CVF, two consecutive VLs ≥200 copies/ml, 4% non-inferiority margin; a single VL >1000 copies/ml was a pre-specified sensitivity analysis).

Results: Of 540 participants, 60.0% were female, median age 40 years (IQR 33-48), 99.6% were Black. At 48-weeks, 91.4% (245/268) on CAB+RPV-LA had VL <50 copies/ml versus 89.2% (240/269) on oral ART (risk difference (RD): 2.3%, 95%CI -2.7% to 7.2%), *Figure 1.*

CVF was infrequent (1.9% (5/268) with CAB+RPV-LA versus 0/269 oral arm; RD: 1.9%, 0.3% to 3.5%). For any VL >1000 copies/ml during follow-up, CAB+RPV-LA was superior (7/268 versus 18/269; RD: -4.1%, -7.7% to -0.6%). All 4/4 with CVF who switched to once-daily dolutegravir-based ART re-suppressed. Safety outcomes were comparable. Of those on CAB+RPV-LA, 93.6% (249/266) preferred injectable therapy.

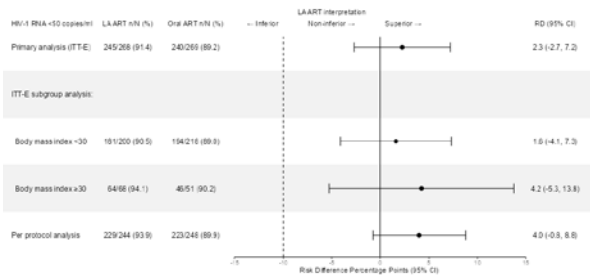


Figure 1.

Conclusions: In people with adherence challenges, CAB+RPV-LA was non-inferior to dolutegravir-based ART for viral suppression and CVF, and performed better when considering any VL >1000 copies/ml, which is relevant for HIV transmission risk. A strong preference for injectable therapy, indicates that CAB+RPV-LA may play a key role for specific populations in the public health approach.

OAS0106LB

Safety and pharmacokinetics of MK-8527 oral once-monthly: a phase 2 study in adults at low risk of HIV-1 exposure

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Background: Long-acting options for HIV-1 pre-exposure prophylaxis (PrEP) are needed. MK-8527 is a novel, oral, nucleoside reverse transcriptase translocation inhibitor (NRTTI) with pharmacokinetic properties supporting once monthly (QM) dosing. We studied the safety and pharmacokinetics of MK-8527 oral QM in adults at low risk of HIV-1 exposure.

Methods: In this double-blind, multicenter study (NCT06045507), adults 18–65 years of age were randomized 2:2:2:1 to receive MK-8527 (3, 6, or 12 mg) or placebo QM for 6 months.

Adverse events and laboratory tests were monitored through 8 weeks after the last dose. MK-8527 in plasma was measured for all participants. MK-8527-triphosphate (TP), the active form, in peripheral blood mononuclear cells (PBMCs) was measured in a subset of participants. Pharmacokinetic exposures for MK-8527 and MK-8527-TP were based on non-compartmental analysis of the sparse data collected in the study.

Results: 350 participants were enrolled (58.3% female; median age 28 years; 51.4% White, 41.4% Black/African American, 2.3% Asian) and received at least one dose of study intervention; 328 (93.7%) received all six doses. The incidence of adverse events was similar for MK-8527 and placebo (Table 1). No clinically meaningful changes were seen in laboratory tests, including total lymphocyte and CD4 T-cell counts (Table 1).

N (%) of participants with:	MK-8527 3 mg (N=101)	MK-8527 6 mg (N=101)	MK-8527 12 mg (N=99)	Placebo (N=49)
Any adverse event (AE)	62 (61.4)	69 (68.3)	66 (66.7)	31 (63.3)
Drug-related (DR) AE	15 (14.9)	16 (15.8)	20 (20.2)	9 (18.4)
Toxicity grade 3-4 AE	5 (5.0)	2 (2.0)	4 (4.0)	4 (8.2)
DR toxicity grade 3-4 AE	1 (1.0)	0 (0.0)	1 (1.0)	1 (2.0)
Serious AE	2 (2.0)	0 (0.0)	1 (1.0)	1 (2.0)
DR serious AE	1 (1.0)	0 (0.0)	0 (0.0)	1 (2.0)
Discontinued due to AE*	0 (0.0)	2 (2.0)	1 (1.0)	2 (4.1)
Discontinued due to DRAE	0 (0.0)	1 (1.0)	1 (1.0)	0 (0.0)
Mean % change (95% CI) in:	N=91	N=92	N=93	N=46
Total lymphocyte count	5.6 (0.9, 10.4)	0.8 (-3.7, 5.3)	3.7 (-0.9, 8.2)	-3.1 (-8.6, 2.4)
CD4 T-cell count	4.8 (-0.1, 9.7)	4.4 (-0.7, 9.5)	4.6 (-0.4, 9.6)	-0.2 (-6.1, 5.8)

* AE's causing discontinuation of MK-8527: migraine (n=1) and decreased lymphocyte/CD4 T-cell count (n=1) in 6 mg group; hypoaesthesia (n=1) in 12 mg group.

Table 1. Summary of safety through follow-up week 8.

Pharmacokinetic parameters for MK-8527 and MK-8527-TP were dose proportional (Table 2).

Analyte	Dose	N	$AUC_{0\text{-}tau}$ (h*µmol/L) GM (%GCV)	C_{max} (µmol/L) GM (%GCV)	T_{max} (hr) Median (Range)
MK-8527	3 mg	78	0.129 (81.5)	0.0320 (67.5)	0.55 (0.25 - 4.28)
	6 mg	92	0.404 (37.3)	0.0538 (73.5)	0.56 (0.25 - 4.38)
	12 mg	95	0.836 (55.0)	0.108 (72.5)	0.57 (0.27 - 4.12)
Analyte	Dose	N	$AUC_{0\text{-}tau}$ (h*pmol/10^9 cells), GM (%GCV)	C_{max} (pmol/10^8 cells), GM (%GCV)	T_{max} (hr) Median (Range)
MK-8527-TP	3 mg	20	20.7 (255.5)	0.325 (78.7)	23.44 (3.53 - 27.45)
	6 mg	23	128 (178.6)	0.782 (72.2)	23.55 (3.67 - 47.07)
	12 mg	19	287 (55.9)	1.23 (63.9)	23.10 (3.63 - 26.15)

AUC, area under the concentration time curve; C_{max}, maximum concentration; GCV, geometric coefficient of variation; GM, geometric mean; T_{max}, time to maximum concentration.

Table 2. Summary of pharmacokinetic parameters for MK-8527 in plasma and MK-8527-TP in PBMCs following administration of multiple oral doses of MK-8527.

Conclusions: MK-8527 was well tolerated with a similar safety profile to placebo in adults at low risk of HIV-1 exposure. The pharmacokinetics of MK-8527 and MK-8527-TP support the continued development of MK-8527 oral QM for PrEP.

Late-breaker poster exhibition

LB01

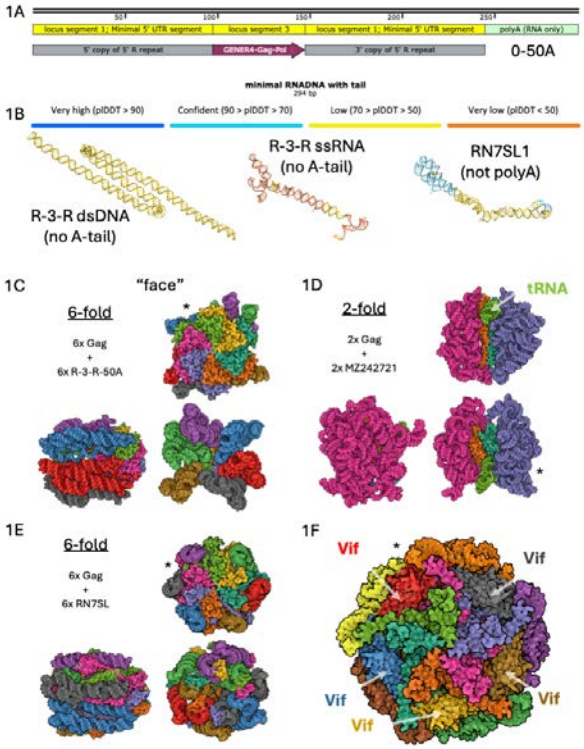
Cargo-bearing Gag+RNA ribonucleoprotein complexes are predicted to form without kissing and independently of host cell membrane seeding

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Background: HIV RNA and protein output remain undercharacterized. Here, I used polyA mapping to update the HIV-1 (NL4-3) mRNA Atlas to version 2.0. This improved Atlas facilitated the design of minimal HIV constructs to investigate higher-order viral structures, such as HIV-1 Gag+RNA ribonucleoprotein (RNP) complex formation.

Methods: I realigned long-read HIV sequencing data to the Atlas reference genome MZ242719 modified with a 300A tail, using optimized Minimap2 parameters (-splice kmer=14). I developed **AtlasWriter** (https://github.com/GenerGener/AtlasWriter) to record polyA mRNAs, and designed a minimal HIV-1 construct (R-3-R-50A; **Figure_1A,1B**) to predict the structures of NL4-3 Gag+RNA complexes using AlphaFold 3/Server constrained by the 5000-token limit.



Results: PolyA mapping revealed alternative transcription start sites and cell type-specific alternative polyA sites. Most HIV polyA tails were between 0-50A. Using minimal RNA constructs, AlphaFold predicted: (**Figure_1C-1F**) Gag RNP complexes ~170-230Å-wide increasingly sequestered N-terminal p17/matrix internally in higher-order complexes with bulkier RNAs (Gag+R-3-R-50A 6-mer shown); (**Figure_1D**) Gag+MZ242721 complexes formed 2-fold symmetric heterotetramers ~200-230Å-wide with HIV mRNA positioned externally, preventing dimerization via "kissing" GCGCGC loop-loop base pairing; Gag multimerization was polyA-independent, though incidental RNA "handshaking" was observed; RNP „pockets" selectively accommodated tRNA (**Figure_1D**), Vif (Gag+RNA+Vif 5-mer shown **Figure_1F**), while excluding APOBEC3G; (**Figure_1E**) Gag+human RN7SL1 complexes closely resembled Gag+R-3-R-50A but with greater N/C-terminal variability. Several retroviruses exhibited similar predicted Gag+RNA multimerization: SIV-Mac239, HTLV-1/2, and Rous Sarcoma Virus.

Conclusions: The updated HIV-1 Atlas predicted novel RNA/protein truncations and enabled the rational design of minimal HIV constructs for structural prediction, providing novel insights into Gag+RNA assembly dynamics. AlphaFold predictions suggest Gag+RNA interactions occur independently of host membrane involvement, possibly before virion assembly/packaging. Gag also formed similar complexes with an abundant host RNA RN7SL1, suggesting at least two Gag RNP pools exist. These predictions extend beyond HIV-1, offering new targets for experimental validation and therapeutics development.

LB02

Bypassing the activation of PKC to reverse HIV latency minimizes the transcription-dependent downregulation of the CD4 receptor

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Background: The deliberate reactivation of latent HIV to enable immune recognition and clearance of persisting infected cells requires identifying non-toxic latency-reversing agents (LRAs) that activate P-TEFb, a cellular transcription factor necessary for efficient HIV-1 RNA synthesis. We have recently discovered that natural diacylglycerol (DAG)-mimicking PKC agonists and synthetic DAG mimetics, which bind RasGRP1 potently, can reverse HIV-1 latency by inducing P-TEFb through a PKC-independent RasGRP1-Ras-Raf-MEK-ERK1/2 pathway.

Here, we show that targeting RasGRP1 preferentially over PKC using DAG indololactones is a novel and safe LRA strategy that obviates off-target unwanted effects of T-cell activation and significant downregulation of the CD4 receptor.

Methods: Synthetic DAG indololactones, possessing known differential affinities for PKC and RasGRP1, were evaluated for their ability to stimulate active P-TEFb and modulate the surface expression of CD3, CD4, CD28, CD45-Ro, CD25, and CD69 in memory CD4+ T cells derived from healthy donors. Combinatorial latency reversal studies were conducted in a primary T-cell latency model to assess the effectiveness of DAG indololactones in synergizing with LRAs that stimulate HIV transcription initiation.

LRA combinations deemed effective in the ex vivo model were subsequently tested in memory CD4+ T cells obtained from treated people living with HIV.

Results: DAG indololactones effectively induced active P-TEFb with minimal induction of T-cell activation markers, specifically CD69 and CD25. The DAG indololactone 2A127, which preferentially binds RasGRP1 over PKC by more than 60-fold, synergized with HDAC inhibitors to reactivate latent HIV-1 in primary T cells.

While PKC agonists induced a rapid, selective, and drastic downregulation of CD4 on uninfected memory CD4+ T cells, the combination of 2A127 and an HDAC inhibitor did not alter the expression of any surface receptors examined. Unexpectedly, PKC agonist-induced CD4 loss was effectively reversed by transcription inhibition but not by lysosomal or proteasomal degradation inhibitors.

Conclusions: DAG indololactones enhance P-TEFb expression in memory T cells and can work synergistically with HDAC inhibitors to reverse HIV-1 latency with minimal T-cell activation and disruption of CD4 surface expression.

These findings support the hypothesis that a dual LRA strategy focusing on P-TEFb biogenesis and the epigenetic activation of the HIV-1 promoter can effectively and safely reverse viral latency.

LB03

Microfold (M) cell-related factors reverse HIV latency *in vitro* and *in vivo*

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Background: Transient increases in viremia occur in people living with HIV (PLWH) on antiretroviral treatment (ART). The molecular mechanisms and reservoir sites driving these viral "blips" are not fully understood. The gastrointestinal (GI) tract is the largest HIV reservoir, and its immunophysiology could promote HIV reactivation. We previously found that microfold (M) cells in the intestinal epithelium produce high levels of interferon-stimulated genes (ISGs), with the potential to reactivate HIV.

Here, we used an *in vitro* model and clinical data to test if factors required for M cell differentiation and/or secreted by M cells can reactivate latent HIV.

Methods: Enteroids were cultured from freshly isolated duodenal crypts in an extracellular matrix, and M cells were differentiated by addition of RANKL, retinoic acid, and lymphotoxin $\alpha_2\beta_1$ ($LT\alpha_1\beta_2$).

Expression of M-cell defining genes (*SpiB*, *GP2*, *CCL20*) and ISGs was measured by digital PCR. HIV reactivation was evaluated in J-Lat 11.1 T cell and U1 promonocytic cell lines by measuring GFP expression and polyadenylated HIV-1 mRNA, respectively. We explored correlations of CD4+ T cell lymphotoxin signaling pathway gene expression with cell-associated unspliced HIV-1 RNA (HIV usRNA) in blood samples from 154 virologically suppressed PLWH.

Results:

- Differentiated enteroids had a typical M cell phenotype: increased expression of *GP2* (120-fold), *SpiB* (1,080-fold), *CCL20* (6.3-fold), and *IFI6* (3.1-fold).
- *In vitro*, $LT\alpha_2\beta_1$ reactivated HIV in T cells (7-fold increase in GFP) and in promonocytic cells (10.5-fold increase in polyadenylated HIV-1 mRNA copies).
- Supernatants from flagellin-treated M cell-differentiated enteroids reactivated HIV in the T cell model (1.3-fold over control).
- In an exploratory analysis of blood from PLWH, expression of lymphotoxin A was negatively correlated (r=-0.20, p=0.015) and lymphotoxin B was positively correlated (r=0.23, p=0.008) with HIV usRNA.

Conclusions: We demonstrated that a cytokine required for M cell differentiation ($LT\alpha_2\beta_1$) and factors secreted by differentiated enteroids reactivated HIV *in vitro*. Furthermore, CD4+ T cell expression of lymphotoxin genes correlated with HIV transcription *in vivo*. These results reveal a role for M cells in shaping the HIV reservoir, with both M cell-differentiating and M cell-secreted factors leading to HIV reactivation.

LB04

sc-SQuHIVLa: advancing HIV-1 reservoir quantification through single-cell in situ RT-LAMP amplification and flow cytometric detection

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Background: Despite advances in combination antiretroviral therapy (cART), HIV-1 persists in a latent reservoir within CD4+ T cells, necessitating lifelong therapy and hampering curative strategies. Accurate quantification of the inducible HIV-1 reservoir is critical for evaluating novel interventions but remains challenging due to the extremely low frequency of reservoir cells. We previously developed SQuHIVLa (Specific Quantification of Inducible HIV-1 by LAMP), an RT-LAMP-based assay detecting multiply spliced (ms) HIV-1 RNA, a key biomarker of viral reactivation, followed by limiting dilution and maximum likelihood estimation to quantify reservoir size.

However, this traditional limiting dilution SQuHIVLa approach can yield wide confidence intervals and reduced precision when detecting naturally small or intervention-reduced reservoirs.

To overcome these limitations, we developed sc-SQuHIVLa, a novel single-cell assay enabling direct in situ detection of msRNA-positive cells by flow cytometry, thereby improving sensitivity, scalability, and precision.

Methods: Using the JLat 11.1 HIV-latent cell model, we systematically optimized fixation and permeabilization protocols, comparing paraformaldehyde and metha-

nol-based methods. Probe delivery efficiency was assessed by flow cytometry, while RNA integrity was evaluated using a Bioanalyzer to determine the RNA Integrity Number (RIN), a standard measure where scores above 7 indicate intact RNA.
We further optimized in-situ RT-LAMP conditions, amplification duration, and probe concentration to maximize msRNA-positive cell detection by flow-cytometry. Assay performance was evaluated by quantifying the frequency of msRNA-positive cells and assessing specificity, background signal, and morphology retention.
Results: Methanol provided superior intracellular probe access and morphology preservation. Fixation enabled rapid permeabilization, achieving probe delivery in 100% of cells within 10–15 minutes. Bioanalyzer analysis confirmed excellent RNA preservation, with RIN scores consistently exceeding 7 after fixation and washing steps. Under optimized conditions, sc-SQuHIVLa reliably distinguished msRNA-positive from negative cells with minimal background. Flow cytometry analysis demonstrated clear separation of positive populations, robust amplification, and high single-cell sensitivity, validating the feasibility and reliability of the method.
Conclusions: sc-SQuHIVLa represents a significant advancement over traditional limiting dilution SQuHIVLa by enabling single-cell resolution of inducible HIV-1 msRNA expression. Its enhanced sensitivity, precision, and scalability offer a powerful and resource-efficient tool for monitoring HIV-1 cure strategies, especially in clinical trials and resource-limited settings.

LB05

In-depth longitudinal characterization of the HIV-1 reservoir and immune compartment in PWH diagnosed at non-acute stage

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Background: In depth characterization of the dynamics of the HIV-1 reservoir in distinct molecular compartments as well as the immune system in non-acutely diagnosed People with HIV-1 (PWH), who comprise the majority of PWH, is essential for the development of effective cure strategies.
Additionally, PWH who started ART after the acute phase are a heterogeneous group with progressive risk of opportunistic complications when CD4 T-cell counts are under 350 cells/mm^3 (late-stage disease) at diagnosis. With 53% of PWH in the Netherlands diagnosed at a late stage, it is important to stratify this group within studies.
Methods: Here, a cohort of 35 participants diagnosed in a non-acute phase were included and underwent sampling at the start of therapy (week 0), half a year (week 24) and a year (week 52) after starting therapy. The viral reservoir was quantified at week 24 and 52 with methods detecting GagPol RNA (FISH-Flow), multiple spliced RNA (SQuHIVLa), intact/defective DNA (IPDA) as well as p24 protein (Flow-cytometry). Activation-Induced Markers assay was performed detecting HIV reactive T-cells after stimulation with Nef, Gag, Pol, Tat and Env peptides. Additionally, deep immunophenotyping was performed with 45-color spectral flow cytometry at week 0 and week 52 and analysed with several methods including unsupervised clustering.
Results: The cohort consisted of 35 participants, most assigned male sex at birth (85.7%). 16 (46%) participants were diagnosed at a late stage. The most common HIV-1 subtype was B (68%). The median reservoir size measured with SQuHIVLa, p24 flow-cytometry and FISH-Flow was comparable between weeks 24 and 52, as well as between weeks 24 and 52 in late and non-late diagnosis, albeit with large donor-to-donor variability. A decrease in median percentages of CD8+CD69+4-1BB+ T cells/total cells between week 0 and week 52 was observed after stimulation with Gag and Pol peptides. Full spectral deep immunophenotyping at weeks 0 and 52 characterized the immune compartment.
Conclusions: The reservoir at different molecular compartments remained stable between 24 and 52 weeks after start of ART, while a decreasing trend in HIV-specific CD4+ and CD8+ T-cells was observed.

LB07

Effect of the menopausal transition on HIV-1 reservoir outgrowth in a longitudinal cohort in Rakai, Uganda

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Background: Lifelong antiretroviral therapy is necessary to maintain HIV-1 suppression due to persistence of HIV proviruses integrated into the genomes of host cells. Expression of viral genes can trigger immune responses against these cells, leading to their clearance from the

body. However, the likelihood of reactivation (inducibility) varies significantly between individuals. Females exhibit reduced viral outgrowth upon ex-vivo stimulation despite similar total HIV-1 DNA levels as males, possibly influenced by higher estrogen levels, which can regulate viral latency. Since estrogen levels sharply decline during reproductive ageing, we assessed changes in viral outgrowth after menopause.

Methods: We performed a retrospective analysis nested within a longitudinal cohort of 90 individuals with HIV-1 at the Rakai Health Sciences Program in Uganda. Participants were virally suppressed (<40 copies/ml) for at least one year at enrollment and provided blood samples over a 5-year follow-up (2015- 2020). We determined menopausal status for female participants (n=56) using a collection of self-reported questions. Viral outgrowth from resting CD4 T cells (rCD4) was quantified using the quantitative viral outgrowth assay (QVOA). We analyzed the fold change in viral outgrowth measured in Inf-ectious units per million rCD4 (IUPM) using Bayesian regression model.

Results: At enrollment, median age was 42.5 (IQR: 37.6-47.3) and 10 (17.9%) participants were post-menopausal; 5 additional participants became post-menopausal during follow-up. The median fold increase in viral outgrowth comparing pre- and post-menopause visits was 1.8 (IQR: 1.5 - 2.3 and 95% CI: 0.93-3.68), controlling for ART duration and regimen.

Conclusions: Our findings indicate that menopause is associated with a near doubling of reservoir outgrowth, supporting estrogen's role in maintaining HIV latency. A limitation of this study is the inability of QVOA to differentiate between inducibility vs quantity of intact provirus.

Future studies employing recently adapted methods to quantify intact provirus in non-subtype B HIV-1 are planned to clarify whether reproductive aging affects absolute reservoir size. These results highlight the importance of including females in HIV cure research and underscore estrogen's potential impact on latency reversal strategies.

LB08

Lipoprotein(a) and De Novo coronary artery calcification in aging Thai PLWH: A six-year study

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Background: Elevated lipoprotein(a) [Lp(a)] is a strong genetically determined independent risk factor for atherosclerotic cardiovascular disease (ASCVD). Levels ≥30mg/dL have shown an associaton with an increased risk of cardiovascular events, and this cutoff value has been incorporated into guideline recommendations from several international societies.

However, its role in predicting de novo coronary artery calcification (CAC >0), a marker of subclinical atherosclerosis, in aging people living with HIV (PLWH) on long-term antiretroviral therapy (ART) remains unclear.

Methods: This cohort study enrolled Thai PLWH aged 50–60 years from HIV-NAT in Bangkok, excluding those with prior ASCVD events. Baseline assessments included 10-year ASCVD risk, smoking and alcohol status, metabolic profiles, HIV virologic control, CD4 count, inflammatory markers, and statin use. CAC scans were performed at baseline (2015–2018) and repeated during follow-up (2023–2024).

Participants with a baseline CAC score of 0 were evaluated for progression in repeated CAC scan and tested for Lp(a). Logistic regression was used to assess the association between elevated Lp(a) (>30 mg/dL) and CAC progression, along with other potential determinants.

Results: Among 135 participants with a baseline CAC score of 0, 68 (50%) developed new coronary calcification over a median follow-up of 5.9 years (IQR 5.5-6.8). At baseline, progressors were more likely to be male (65% vs. 33%, p<0.001), current smokers (14.7% vs. 7.5%, p=0.002), alcohol consumers (31% vs. 8%, p=0.001), hypertension (34% vs. 18%, p=0.05), had a higher prevalence of intermediate-to-high 10-year ASCVD risk (44% vs. 20%, p=0.003). Median Lp(a) levels were significantly lower in progressors compared to non-progressors (17.2 mg/dL, IQR 9.1-35.3 vs. 12.2 mg/dL, IQR 5.5-24.3, p=0.03).

In multivariable analysis, BMI ≥25 kg/m² (OR 3.8 95% CI 1.4–10.3 p=0.009), and smoking (OR 2.96, 95% CI 1.04–8.44, p=0.042) were independently associated with CAC progression. Elevated Lp(a) (>30 mg/dL), Inflammatory markers (hsCRP, IL-6), and triglyceride-glucose (TyG) index and were not significantly associated with increased risk.

Conclusions: Half of the participants developed new coronary artery calcification over the follow-up period. Elevated Lp(a) was not an independent risk factor for CAC progression. Prioritizing smoking cessation, weight management, and lipid-lowering strategies is essential for reducing cardiovascular risk in high-risk PLWH populations.

LB09

Effect of empirical Treatment with valganciclovir on mortality in infants with severe HIV-associated pneumonia: a multicenter, open-label, randomized factorial clinical trial

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Background: Mortality in infants with advanced HIV disease (AHD) remains unacceptably high, with pneumonia as the leading cause. Autopsy studies identified cytomegalovirus-associated pneumonia and tuberculosis as frequent causes of death. We evaluated whether empirical treatment with valganciclovir and/or tuberculosis therapy improves survival in infants with HIV-associated pneumonia. Hereby, we report the effect of valganciclovir.

Methods: EMPIRICAL (NCT03915366) was an EDCTP-funded, randomized, multicenter, open-label 2x2 factorial trial in infants aged 28 to 365 days with HIV-associated pneumonia, hospitalized in Mozambique, Uganda, Zimbabwe, Zambia, Malawi, and Ivory Coast. Participants were randomized to arms with valganciclovir (16 mg/kg/bid) for 15 days or to arms without valganciclovir. All-cause 15-day mortality was analyzed using multivariable logistic regression (including and excluding deaths within the first 48 hours). Secondary endpoints included days on oxygen therapy and adverse events (AEs).

Results: We analyzed 558 participants enrolled from March 2020 and January 2024: 276 were allocated to arms with valganciclovir and 282 to arms without valganciclovir. The median age was 4.4 months (IQR, 3.2–7.4); 49.1% were female, 25.4% had severe malnutrition, and 60.6% had oxygen saturation <90%.

Overall, 253/558 (45.3%) participants died during the study. A total of 140/558 (25.1%) died within the first 15 days: 64/276 (23.2%) in the arms with valganciclovir and 76/282 (27.0%) in the arms without valganclovir. Sixty-two deaths occurred within the first 48 hours.

There was no interaction between empirical tuberculosis treatment and valganciclovir (-0.53+/-0.7, p=0.450). Participants receiving valganciclovir were 46% less likely to die at 15 days (odds ratio [OR], 0.54; 95% CI, 0.27–1.18), and 64% less likely to die when excluding those who died within the first 48 hours (OR 0.36 (0.15–0.90)). Valganciclovir did not reduce days on oxygen significantly during the first admission (rate ratio, 0.89 (0.61–1.29)). Treatment with valganciclovir did not increase the probability of having any AE (OR 0.90 (0.21-3.89)), or specifically of neutropenia (OR 0.77 (0.44-1.37)).

Conclusions: Empirical valganciclovir is a safe and effective treatment for infants with severe HIV-associated pneumonia. Based on these findings, valganciclovir may be considered for inclusion in the STOP AIDS treatment protocol for infants with AHD.

LB10

Bictegravir/emtricitabine/tenofovir alafenamide after virologic failure to cabotegravir/rilpivirine: A case series

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Background: Virologic failure to cabotegravir/rilpivirine with genotypic resistance is rare in clinical trial and cohorts. There remains interest in how best to manage this clinical situation. While various regimens have been used, often including protease inhibitors, this has not been studied systematically.

Methods: This is a single cohort case series of six persons experiencing virologic failure to cabotegravir/rilpivirine with genotypic resistance from January 2022 to March 2025. Methods and early results were published recent-

ly (AIDS 2025,39(6): 777-779). All received bimonthly cabotegravir and transitioned to bictegravir/emtricitabine/tenofovir alafenamide (bictegravir/FTC/TAF). Virologic and immunologic responses are described.

Results: Six individuals experienced confirmed virologic failure with genotypic resistance. Median time to cabotegravir/rilpivirine failure was 389 days (range 178-1317). In the first person, bictegravir/FTC/TAF was initiated before resistance testing was available. Despite mutations associated with integrase inhibitor resistance, this individual achieved virologic suppression.

As a result, subsequent patients with cabotegravir/rilpivirine failure were similarly switched to bictegravir/FTC/TAF. The cohort (aged 24-63 years, four female) had no preexisting rilpivirine or integrase inhibitor resistance-associated mutations (RAMs), though one person had a history of previous treatment failure with an unknown therapy and no documented viral resistance.

Adherence issues leading to injections out of the treatment window were documented in two patients. At failure, all individuals exhibited both integrase and reverse transcriptase RAMs, with mutations in amino acid 148, with or without amino acid 138 in the integrase gene.

Virologic data is available for 5 of the 6 patients. After a median follow-up of 518 days (range: 271–603), all five individuals remained virologically suppressed on bictegravir/FTC/TAF. CD4 count increased by a median of 45 cells/mm³ (range -85 – 417)

Table
Characteristics of six individuals with virologic failure to cabotegravir/rilpivirine and treatment outcome following treatment with bictegravir/emtricitabine/tenofovir alafenamide

Patient	Clade	BMI kg/m2	Treatment before CAB/RPV	Viral load (copies/ml) at CAB/RPV start	Viral load (copies/ml) at CAB/RPV failure	RAM at CAB/RPV failure		Follow-up on BIC/FTC/TAF	
						NNRTI	InSTI	Most recent viral load (copies/ml)	Duration of therapy (days)
1	C	37	RPV/FTC/TAF	<20	3120	101E	148R	<20	562
2	AG	30	DTG/ABC/3TC	<20	91300	138G, 230L	74I, 138E/K, 140A/G, 148K/Q/R, 230R/S	<20	608
3	C	25	BIC/FTC/TAF	<20	9340	181C, 221Y	138K 148R	<20	518
4	A	31	DTG/RPV	32.5	1290	90I 103N	138K, 148K	<20	271
5	D	29	DTG/ABC/3TC	<20	1280	98G, 101E, 181C, 190A	118R	<20	311
6	A/G	63	DTG/ABC/3TC	<40	1100	103N, 188L	138K 140A 148K	NA	NA

BMI: body mass index; CAB: cabotegravir; RPV: rilpivirine; RPV: rilpivirine; FTC: emtricitabine; TAF: tenofovir alafenamide; DTG: dolutegravir; ABC: abacavir; 3TC: lamivudine; BIC: bictegravir; FTC: emtricitabine; RAM: resistant associated mutations; NNRTI: non-nucleoside reverse transcriptase inhibitor; InSTI: integrase strand transfer inhibitor.

Conclusions: Until the management of cabotegravir/rilpivirine failure is systematically studied, clinical judgement will guide therapeutic decision. Bictegravir/FTC/TAF may offer a viable option for achieving virologic suppression in this setting.

LB11

Liraglutide for obesity in HIV (LIROH): a clinical trial evaluating acceptability, impact on cardiometabolic risks & gut immunity of GLP-1 receptor agonists in South Africa

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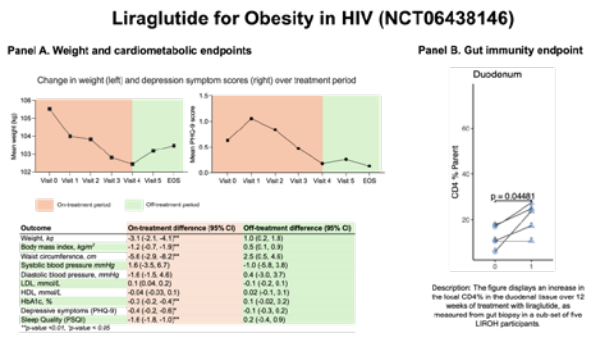
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Background: Though obesity is common in people living with HIV (PLWH), GLP-1 receptor agonists (GLP-1RAs) have yet to be trialed in the African region. Here, we evaluated the acceptability, and impact on cardiometabolic risk, depressive symptoms and gut immunity of liraglutide at obesity-dosing for PLWH in South Africa.

Methods: In this open-label, phase IV clinical trial in KwaZulu-Natal, we enrolled 40 PLWH ≥18 years old, suppressed on first-line ART for ≥6 months, with a BMI ≥30 kg/m² and no diabetes. Participants received liraglutide 3.0mg daily plus lifestyle counseling for 12 weeks ("on-treatment") and were followed for 12 more weeks once off-treatment ("wash-out"). Five randomly-selected participants also underwent gut biopsy via endoscopy/colonoscopy at baseline, weeks 12 and 24.

Outcomes included (1) acceptability assessed via enrollment and retention, (2) weight, cardiometabolic risk markers, depressive symptoms, sleep quality at 12 and 24 weeks, and (3) gut immune markers at 12 and 24 weeks.

Results: We screened 51 PLWH from 5/5/24-9/17/24, of whom 43/51 (84%) were eligible, 40/43 (93%) enrolled, and 38/40 (95%) completed treatment. The enrolled group had a mean age of 38, 97% women and mean BMI of 39 [IQR 36, 43].



Liraglutide significantly reduced weight (-3.1kg), waist circumference (-5.6cm), HbA1c (-0.3%), depressive symptoms (-0.4), and improved sleep quality (-1.6) over 12 weeks, though some markers began to worsen again after wash-out (Figure 1).

Gut biopsy revealed significant local CD4 recovery at 12 weeks (p=0.044, additional results forthcoming). Six (15%) participants had adverse effects requiring dose reduction.

Conclusions: Liraglutide was highly acceptable and reduced important cardiometabolic risk markers and depressive symptoms; it also significantly improved local gut immune reconstitution, which may further decrease inflammation-related complications in PLWH. These data demonstrate high potential for unique GLP-1RA benefits in PLWH and support the need for larger trials in PLWH in the African region.

LB12

Expanding towards a point-of-care tenofovir-diphosphate enzymatic assay with lateral flow readout for long-term HIV medication adherence detection

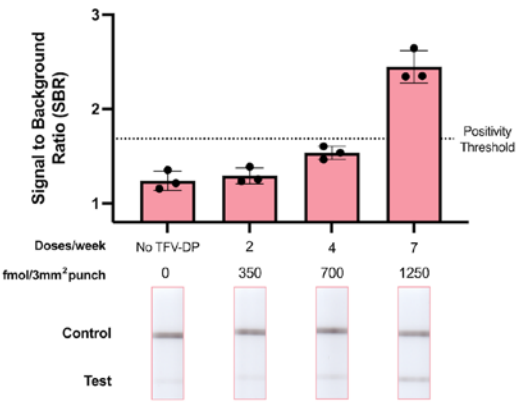
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Background: Although drug level feedback can improve HIV medication adherence and health outcomes, conventional testing with liquid chromatography tandem mass spectrometry (LC-MS/MS) is arduous and expensive. Urine tenofovir lateral flow assays (LFAs) for measuring adherence are rapid and inexpensive but cannot distinguish between recent (<1 week) and long-term (1-3 month) adherence.

The REverse transcriptase ACTivity (REACT) assay rapidly measures tenofovir diphosphate (TFV-DP) in blood, a biomarker of long-term adherence, based on the drug's inhibition of DNA synthesis by HIV reverse transcriptase (RT) enzyme. REACT results correlate with LC-MS/MS measurements but require instrumentation for fluorescence readout. Here we integrate REACT with CRISPR enzymes and reporters for instrument-free LFA readout.

Methods: We combined CRISPR RNA, Cas12a, DNA template, nucleotides, HIV-RT, biotin-FITC reporters, and spiked TFV-DP concentrations corresponding to 2, 4, and 7 doses/week (350, 700, and 1250 fmol/3mm2 punch) into rehydrated dried blood spots from healthy donors and incubated at 37°C for 60 minutes. Reaction products were visualized on commercially available lateral flow strips were immersed for 10 minutes and scanned to quantify signal-to-background ratio (SBR). We set a positivity threshold 3 standard deviations above the "no TFV-DP" condition mean.



Results: SBR values correlate with TFV-DP levels. LFA signal intensity was significantly different between the "no TFV-DP" condition and 7 doses/week concentrations (p=0.0003). Similarly, we could distinguish between the 2 and 4 doses/week from the 7 doses/week condition (p=0.0002 and 0.0005).

Conclusions: Our enzymatic assay with LFA readout is a step towards point-of-care measurement of long-term HIV medication adherence in resource-constrained settings. Ongoing work will tune the LFA readout to 2 and 4 doses/week and validate these results with clinical samples.

LB13

Understanding causes of death qmong african infants with HIV and pneumonia: A call to address unacceptably high mortality through enhanced in-hospital management and targeted post-discharge care

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Background: Mortality in infants hospitalized with severe HIV-associated pneumonia remains unacceptably high. Beyond the underlying cause, the chain of events leading to the fatal episode remains poorly characterized. We analyzed causes of death (CoD) in the EMPIRICAL trial (NCT03915366), comparing participants who died during the initial hospitalization at trial enrollment with those who died post-discharge during the 12-month study follow-up period.

Methods: EMPIRICAL enrolled infants aged 28-365 days hospitalized with severe HIV-associated pneumonia in Mozambique, Uganda, Zimbabwe, Zambia, Malawi, and

the Ivory Coast. CoD from fatal events occurring from March-2020 to January-2025 were individually determined by two experts integrating antemortem socio-demographic, clinical, and laboratory data prospectively and systematically collected by the study sites, using WHO International Classification of Diseases, 10th Revision (ICD-10) coding. An underlying cause, defined as the condition initiating the chain of events leading to death, was assigned to all deaths.

When more than one condition contributed to death, the chronological chain of events was documented (underlying, comorbid conditions, and immediate causes). A third expert reviewed discrepancies.

Results: Among the 558 participants included, 253 (45.3%) died: 142 (56.1%) died during initial admission at EMPIRICAL enrolment and 111 (43.9%) after initial discharge. Median time to death from enrolment was 3.0 [IQR:2.0;7.0] and 84.0 [IQR:32.5;158.0] days in initial hospitalization and post-discharge deaths, respectively.

A total of 75.7% of children were diagnosed with HIV at the time of enrolment. Baseline median CD4 and HIV viral load were 13.6% [IQR:8.4;20.1] and >10^6copies/mL, respectively. HIV wasting syndrome was the major underlying cause of death (172/253,68.0%), more frequent in post-discharge deaths (54.1% vs. 81.0%, p=0.001).

Pneumonia was the most common immediate cause overall (53.7%), more frequent during admission (64.9% vs. 33.3%, p<0.001), while sepsis was more common postdischarge (12.3% vs. 31.7%, p=0.003). CoD was undetermined in 48/253 (19.0%), mostly among postdischarge deaths outside of a health facility (3.5% vs 38.7%, p<0.001).

Conclusions: In-hospital and post-discharge mortality is high in infants with severe pneumonia and advanced HIV disease. Targeted strategies to prevent and manage underlying conditions, including wasting, optimize treatment of immediate causes of death, including pneumonia and sepsis, and ensure proactive post-discharge follow-up are needed.

LB14

Once-daily dolutegravir–based antiretroviral therapy amongst Ugandan adults with advanced HIV disease receiving 1-month of daily rifapentine and isoniazid for TB preventive therapy: results of a prospective pharmacokinetic cohort study

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Background: 1HP (one month of daily isoniazid and rifapentine) is an efficacious, and well-tolerated TB preventive therapy regimen. 1HP implementation has been slow due to concern about the drug-drug interaction between rifapentine and dolutegravir and limited pharmacokinetic data to inform dolutegravir dosing.

Methods: A single arm, pharmacokinetic study involving 15 adults with advanced HIV disease receiving once daily 50mg dolutegravir-based ART during 1HP therapy, alongside once daily 800mg fluconazole for treatment of cryptococcal meningitis.

Participants underwent intensive pharmacokinetic sampling on day-0, day-5 and day-14 of 1HP therapy; sampling was conducted pre-dose and 2, 4, 8, 24 hours post-dose.

Dolutegravir, rifapentine, and fluconazole plasma concentrations were measured by HPLC mass spectrometry. Dolutegravir and fluconazole pharmacokinetic parameters Cmax, $AUC_{0\text{-}24h}$ and C_{24h} (trough concentration) were described using geometric means and 95% confidence interval (CI).

Parameters on day-5 and day-14 were compared to day-0 using geometric mean ratios (GMR, 90% CI).

Results: Fifteen participants were enrolled, 60% female, median age 37 (IQR 27-41) years, median CD4 count was 11 (IQR 10-25) cells/μL. All 15 participants completed day-0 and day-5 visits, 13 participants completed day-14. Day-14 dolutegravir C_{24h} geometric mean was 0.61 (95%CI 0.32-1.16) mg/L, 9-fold higher than the dolutegravir IC90 of 0.064 mg/L.

Dolutegravir C_{max} and $AUC_{0\text{-}24h}$ did not significantly differ by visit. Day-14 fluconazole C_{max} was reduced by 27% (90%CI 6-43%) compared to baseline, $AUC_{0\text{-}24h}$ was reduced by 33% (7-36%); no cases of cryptococcal meningitis relapse occurred during 18-week follow-up.

Of 14 participants alive at week-12 post 1HP initiation, 11 (78%) had HIV viral load (VL) <200 copies/ml; of 21% (3/14) with an HIV VL ≥200 copies/ml at week-12, two participants had HIV VL <200 copies/ml by week-28 and week-32, and the remaining participant self-discontinued ART.

	PK Visit 1 (Day 0 of 1HP)		PK Visit 2 (Day 5 of 1HP)		Visit 2 vs 1	PK Visit 3 (Day 14 of 1HP)		Visit 3 vs 1
	n	Geometric mean (95% CI)	n	Geometric mean (95% CI)	Geometric mean ratio (90%CI)	n	Geometric mean (95% CI)	Geometric mean ratio (90%CI)
Dolutegravir C_{max} (mg/L)	15	2.93 (1.85-4.65)	15	2.26 (1.08-4.75)	0.85 (0.63-1.15)	14	2.41 (1.70-3.43)	0.81 (0.49-1.34)
Dolutegravir AUC_{0-24h} (mg/L*hr)	15	34.2 (21.1-55.6)	14	25.7 (12.8-51.4)	0.76 (0.57-1.00)	13	31.2 (21.5-45.3)	1.01 (0.61-1.69)
Dolutegravir C_{24} (mg/L)	15	0.94 (0.50-1.74)	14	0.59 (0.31-1.15)	0.64 (0.43-0.95)	13	0.61 (0.32-1.16)	0.76 (0.40-1.46)
Fluconazole C_{max} (mg/L)	15	66.8 (49.8-89.5)	15	63.0 (43.8-90.7)	0.94 (0.42-1.24)	15	48.74 (32.2-73.8)	0.73 (0.57-0.94)
Fluconazole AUC_{0-24h} (mg/L*hr)	15	1072 (749.7-1532.9)	14	993 (661.1-1491.6)	0.89 (0.7-1.12)	13	840.4 (519.2-1360.3)	0.77 (0.64-0.93)
Fluconazole C_{24} (mg/L)	15	32.1 (14.7-70.2	14	24.5 (10.2-59.3)	0.73 (0.30-1.79)	13	34.21 (20.3-57.7)	1.06 (0.63-1.78)

Cmax = Maximum plasma concentration
AUC_{0-24h} = Area Under the Concentration-Time Curve from 0 - 24 hours
C_{24} = Plasma concentration 24 hours post dose (trough concentration)

Table. Dolutegravir and fluconazole pharmacokinetic parameters from non-compartmental analysis.

Conclusions: Despite expected reductions in exposure, once-daily 50mg dolutegravir and 800mg fluconazole dosing may be safe and effective during 1HP.

LB15

Empirical treatment against tuberculosis in infants with HIV-associated pneumonia: a multicenter, open label, randomized factorial clinical trial

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Background: Mortality in infants with advanced HIV disease is high. Autopsy studies show that tuberculosis is often missed. Case-fatality rate for severe pneumonia associated with tuberculosis ranges from 4% to 21% in Africa. We evaluated if empirical treatment against tuberculosis (TB-T) and/or cytomegalovirus improve survival in infants with HIV-associated pneumonia. We hypothesized

that even after excluding participants with suspected tuberculosis, empirical TB-T still may be beneficial. Hereby, we report the effect of TB-T.

Methods: EMPIRICAL (NCT03915366) was a EDCTP-funded, randomized, open-label, factorial 2x2 trial in infants aged 28 to 365 days with HIV-associated pneumonia hospitalized in Mozambique, Uganda, Zimbabwe, Zambia, Malawi, and Ivory Coast. Participants were randomized to standard TB-T plus Standard of Care (SoC) or SoC with a enhanced diagnosis strategy at enrolment (Xpert testing of nasopharyngeal aspirate (NPA) and faeces, and testing TB-LAM in urine). Participants in SoC arm received TB-T if tuberculosis was diagnosed post-randomization. All-cause mortality over 1 year of follow-up was analyzed with a multivariable flexible parametric survival model.

Results: We analyzed 558 participants enrolled between March 2020 and January 2024; 276 allocated to TB-T and 282 to SoC + enhanced diagnosis; 134/282(47.5%) participants allocated to arms without empirical TB-T received TB-T post-randomization as part of SoC for suspected or confirmed tuberculosis. The median age was 4.4 months (IQR, 3.2 to 7.4), 49.1% were female, 25.4% had severe undernutrition, and 60.6% had SatO2 <90%. At baseline, 9/479 (1.9%) had Xpert-positive in NPA, 17/520(3.3%) in faeces, 127/493(25.8%) TB-LAM positive, and 1/65(1.5%) positive gastric fluid culture. Globally, 253/558 (45.3%) participants died during the study: 121/282 (42.9%) died in arms without TB-T and 132/276 (47.8%) in arms with TB-T.

There was no interaction between empirical TB-T and valganciclovir (-0.53+/-0.7, p=0.450). We found no significant effect of empirical treatment on the probability of death, (HR 1.07 (95% CI, 0.68-1.69)), in reduction of days of hospitalization over one year (rate ratio 1.03 (0.80-1.33)), in the probability of having any AE (OR 0.86 (0.17-4.01), or specifically of hypertransaminemia (OR 0.73 (0.42-1.27).

Conclusions: After exclusion of possible tuberculosis, empirical TB-T does not improve clinical outcomes in infants with HIV-associated pneumonia, compared to an enhanced diagnosis strategy.

LB16

Is exclusion of tenofovir from antiretroviral regimens safe in Africa: insights on hepatitis B from the switch to DTG/3TC (Sungura) study

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Background: Tenofovir, the WHO recommended nucleoside reverse transcriptase inhibitor in antiretroviral therapy, is useful for treatment of both HIV and HBV. However, as comorbidities such as kidney and bone disease rise, particularly in older populations, dual drug therapies that exclude tenofovir are increasingly attractive. It is unclear how best to deploy these regimens in contexts with high HBV prevalence and low uptake of HBV vaccination. Reactivation of HBV remains a potential risk in those with previous exposure in whom tenofovir is withdrawn.

Methods: The Sungura study (NCT06444620) is a phase 3 single arm clinical trial at multiple sites in Kenya enrolling participants aged ≥60 years, with VL <50 copies/ml on bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF). Participants with HBsAg + or with evidence of prior infection and no immunity (HBcAb + and HBsAB <10 IU) were excluded. All participants were switched to DTG/3TC at enrollment. Liver chemistries were done at baseline and at week 24. We evaluate the incidence of elevation of liver transaminases at 24 weeks post withdrawal of TAF. The study is continuing to week 96.

Results: Between July and September 2024, 227 participants on B/F/TAF were screened for enrolment into Sungura. Of these, 121 (53.3%) had evidence of prior HBV infection with a positive HBcAb and 29 (12.8%) were excluded due lack of evidence of immunity (1 HBsAg positive, 18 HBsAb <5 and 10 HBsAb 5-<10 IU). 92 participants with HBsAb ≥10 IU were included along with 106 participants with no evidence of previous HBV infection. The median age was 66 years (range 62-81) and 49.2% were female. At week 24, no ALT or AST elevations were observed and there were no incident HBV infections. Additionally, high rates of HIV-1 suppression were observed.

Conclusions: Prior hepatitis B exposure is common in older PWH, majority of whom have immunity and can be safely transitioned to a two-drug regimen that excludes tenofovir. However, HBV serology panels to identify people at risk of HBV reactivation are not routinely available across much of sub-Saharan Africa, and further work is needed to evaluate the necessity of such screening in view of our study findings.

LB17

Efficacy and safety of switching to dolutegravir/lamivudine dual therapy from bictegravir/emtricitabine/tenofovir alafenamide among virally suppressed older adults ≥60 years: week 24 results from the Sungura study

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Background: Dolutegravir/lamivudine (DTG/3TC) has demonstrated similar efficacy to three-drug regimens among people without prior virological failure. DTG/3TC minimizes exposure to NRTIs which is particularly relevant for older adults, due to age-related comorbidities and increased likelihood of polypharmacy and drug-drug inter-

actions. DTG/3TC may also potentially cost less than three drug regimens. We evaluated the efficacy and safety of switching older adults from bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) to DTG/3TC.

Methods: The Sungura Study (NCT06444620) is an open-label, single arm, 96-week study conducted at two sites in Kenya. Eligible participants were adults ≥60 years with HIV-1 viral load <50 copies/mL on B/F/TAF with no prior virological failure and hepatitis B negative; all were switched to DTG/3TC at enrollment. The primary endpoint is the proportion of participants with viral load ≥50 copies/mL at 48 weeks using the FDA snapshot algorithm. We present week 24 results.

Results: Between Jul and Sep 2024, 197 participants enrolled in Sungura, all of whom were black African, 49% female and median age 66 years (range 62 to 81). Baseline prevalence of comorbidities was high (Table). At week 24, all participants remained on DTG/3TC and none (0/197) had HIV viral load ≥50 copies/mL. Incident comorbidities (excluding participants with the comorbidity at baseline) included hypertension in 20% (12/59), impaired fasting glucose or diabetes in 1.8% (3/165), dyslipidemia in 17% (26/151) and grade 3 or 4 creatinine clearance events in 10.3% (14/136). The median change in weight was +0.5kg (IQR -0.2 to 0.5) with 31 (15.8%) participants having ≥5% weight gain. The median change in 10-year ASCVD risk score was +0.6% (IQR -1.9 to 4.1).

Characteristic	Total (n=197)
Time on ART (years)	12.0 (9.5,12.5)
Hypertension*	138 (70%)
Impaired fasting glucose or diabetes mellitus	32 (16%)
Dyslipidemia**	46 (23%)
Grade 3 creatinine clearance abnormality***	61 (31%)
Body-mass index category (kg/m^2)	
Underweight (< 18.5)	5(2%)
Normal (18.5-24.9)	79(40%)
Overweight (25.0-29.9)	67(34%)
Obese (≥ 30)	46(23%)
ASCVD 10-year predicted risk score category	
Low risk (< 5.0%)	1(0.5%)
Borderline risk (5.0-7.4%)	20(11%)
Intermediate risk (7.5-19.9%)	127(65%)
High risk (≥20%)	45 (24%)

Data are median (interquartile range) or n (%) unless otherwise stated. Abbreviations: ASCVD, atherosclerotic cardiovascular disease using the American College of Cardiology risk estimator.
*Hypertension was defined a two elevated readings during screening/enrollment and at least one folow-up high reading, or, on treatment for hypertension, or, documented history of hypertension
**Dyslipidaemia was defined as any one or more of elevated total cholesterol, elevated low density lipoprotein or elevated triglycerides
***Creatinine clearance was calculated using the Cockcroft-Gault equation

Table: Baseline characteristics of virally suppressed adults ≥60 years old who switched to dolutegravir/lamivudine from bictegravir/emtricitabine/tenofovir alafenamide.

Conclusions: At week 24, there were no incidences of virological failure and no withdrawals from the Sungura study. Comorbidities were common, highlighting additional considerations for selecting antiretroviral agents for older populations.

LB18

Prevalence of frailty and neurocognitive impairment, and effects on quality of life among adolescents with perinatal HIV at Kenyatta national hospital

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Background: Adolescents with perinatal HIV are at risk of lower quality of life brought about by non-AIDS associated morbidity due to pre-mature aging. Little is known about frailty in adolescents with perinatal HIV and the effects of frailty and neurocognitive impairment on quality of life.

This study sought to determine the prevalence of frailty and neurocognitive impairments, and the effects of quality of life among adolescents with perinatal HIV.

Methods: A cross-section survey of one hundred adolescents with perinatal HIV(APHIV) screened for frailty and neurocognitive impairment (NCI) using the modified Fried index scale, (Fried LP, 2001) childhood and teenage executive functioning inventory (Thorell L B, 2014) (Alimohamadi, 2022), youth HIV dementia scale (Phillips NJ, 2019) Montreal Cognitive Assessment (Nasreddine ZS, 2005) (MoCA) in a National Referral Hospital in Kenya. Prevalences of frailty and NCI were estimated.

Chi square and Fisher's exact test were used to associate frailty and other independent variables and logistic regression was used to calculate odds ratios. Significance was set at 5% level.

Results: Of APHIV surveyed, 60% were male, 88% were virally suppressed (viral load <200 copies/ml), 60% were older than 15 years and 98% were on DTG-based regimens. All adolescents were either moderately frail (52%) or severely frail (48%). The prevalence of NCI was 19% using the Montreal Cognitive Assessment (MoCA) and 37% using the Youth HIV Dementia scale.

Anxiety was reported in 12.5% of those with severe frailty while none in the group with moderate frailty group had anxiety (p=0.009).NCI was found in 29.8% of those with severe frailty compared to 9.6% in moderate frailty group [OR 4.0 (95% CI 1.3-12.2), p=0.011].

APHIV with severe frailty had a higher proportion with low health-related quality (45.8% versus 28.8% in the moderately frail group). NCI was correlated with elevated blood pressure; 44% with stage 1 hypertension in those without NCI and 55.6% in those with NCI [OR 3.41 (95% CI 0.80-14.44), p=0.036.

Conclusions: High prevalence of frailty indicates the need for longitudinal studies to validate the study findings and inform the need for routine screening for frailty in APHIV.

LB19

Model-based efficacy of long-acting cabotegravir by time since last injection among cisgender men and transgender women enrolled in HPTN 083

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Background: HIV Prevention Trials Network (HPTN) 083 study demonstrated superiority of bi-monthly long-acting injectable cabotegravir (CAB-LA) to daily oral tenofovir disoproxil fumarate/emtricitabine (TDF/FTC). CAB-LA reduced HIV incidence by ~66% compared to TDF/FTC, a statistically significant result.

However, the pharmacologic correlates of protection have only recently been estimated, and to-date, protective efficacy by time since injection has not been modeled.

Methods: We calibrated curves describing population-level reduction in HIV acquisition vs elapsed time since last injection using data from HPTN 083 through the first year of unblinded follow-up.

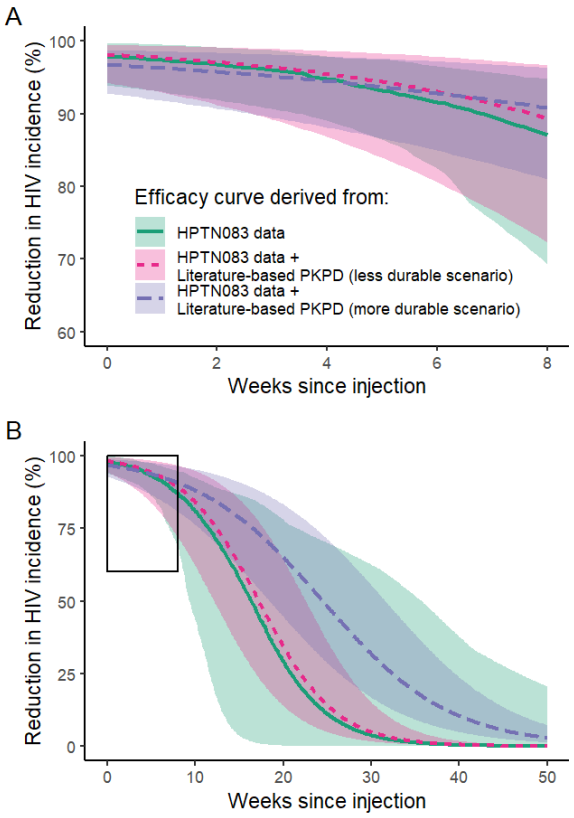
We estimated background HIV incidence using TDF/FTC usage in the randomized placebo control arm and accounted for delays between HIV acquisition and detection using a fully-Bayesian Markov Chain Monte Carlo (MCMC) framework.

Our main curve was calibrated solely using HPTN 083 data. We also created literature-informed curves taking advantage of clinically-derived estimates of the pharmacokinetics: fixing the cabotegravir half-life at six weeks, and in-vitro predictions of pharmacodynamics: assuming a hill equation of order 2 (less durable) or order 6/5 (more durable). By deviance information criterion, all curves were equally plausible given the data.

Results: Using data from HPTN 083 alone, we estimated CAB-LA reduces HIV incidence by 93.9% (95% credible interval 87.9–97.7) within 8 weeks of injection.

Estimated efficacy remained above 70% (95% credible interval 7.9–25.0) for 12.7 weeks and above 50% (95% credible interval 9.3 – 35.8) for 16.4 weeks following injection.

Our literature-informed curves showed similar efficacy within 8 weeks of an injection (Figure A), diverging thereafter (Figure B).



Conclusions: We estimated high preventive CAB-LA efficacy of 93.9%, within eight weeks of an injection. This is consistent with protective efficacy associated with cabotegravir concentrations above 4xPAIC-90 and non-human primate models. Additional clinical data are needed to better inform efficacy after 8 weeks as well as the impact of prior doses.

LB20

Determinants of HIV Pre-Exposure Prophylaxis (PrEP) uptake among youth aged 15-24 years in turbo Sub-County, Uasin Gishu, Kenya

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Background: This research aimed to identify determinants of HIV Pre-Exposure Prophylaxis (PrEP) uptake among youth aged 15-24 years in Turbo Sub-County, Kenya, addressing rising HIV infections among Kenyan youth despite PrEP's proven effectiveness in reducing transmission by 48.9% when combined with other strategies.

Methods: This cross-sectional mixed-methods study was conducted in November-December 2024 in Turbo Sub-County, Kenya. The research included 361 youth participants aged 15-24 years, with the sample size determined using Fisher's formula (95% confidence level, 5% margin of error). Data were collected through structured questionnaires, 5 key informant interviews, and 6 focus group discussions. Analysis included bivariate and multivariate logistic regression for quantitative data and thematic analysis for qualitative data.

Results: Overall PrEP uptake was 8.83%, with age-related disparities: 3.37% (under 16), 7.41% (16-18), 9.18% (19-21), and 15.66% (22+ years) (OR=5.32, p=0.011). Uptake was sim-

ilar between females (8.42%) and males (8.81%). Approximately 70% of youth had no awareness of PrEP. Socioeconomic factors showed employed individuals (16.33%) had higher usage than students (6.93%), with usage increasing from 2.25% in the lowest income group to 12.63% in the highest. Those with good PrEP knowledge showed significantly higher usage (22.06% vs. 3.77%, OR=7.21, p<0.001).
Key system challenges included PrEP availability in only 20% of facilities and minimal healthcare worker training. Multivariate analysis identified four independent predictors: well-integrated PrEP services (AOR=3.78), willingness to recommend PrEP (AOR=3.70), history of residential changes (AOR=5.04-7.78), and personally knowing someone with HIV/AIDS (AOR=2.67).
Conclusions: Findings highlight the need for age-tailored prevention approaches and addressing fundamental knowledge gaps through youth-friendly channels. System-level reforms are needed to expand access points and improve provider capacity.
The correlation between knowing someone with HIV and PrEP use suggests the potential effectiveness of peer-based advocacy programs. Cultural and religious barriers require engaging leaders and parents as partners in prevention efforts.
Decentralized delivery models could improve uptake by addressing transportation challenges. Community-level interventions to reduce HIV-related stigma must accompany biomedical prevention efforts. Effective implementation requires creating comprehensive ecosystems of support addressing the complex contexts in which youth make prevention decisions.

LB21

Co-administration of liposomal adjuvant ALF43 along with HIV-1 DNA vaccination improves binding antibody responses against HIV-1

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Background: Adjuvants improve protein vaccine immune responses. However, their effects on DNA immunizations have not been studied thoroughly in humans. In this double-blind phase 1 HIV vaccine study, we evaluated two novel adjuvants: Army Liposome Formulation containing monophosphoryl lipid A and Cholesterol (ALF43), and Recombinant Double-Mutant *Escherichia coli* Heat Labile Toxin (dmLT) to determine impact on DNA priming.
Methods: 137 healthy participants (including 11 replacements), 18-40 years old, were randomly enrolled into seven groups as depicted in Figure 1.
Participants were primed with plasmid DNA (encoding HIV Env-C gp120) at weeks 0, 4, 12, either given intramuscularly (IM) alone (groups 1+2), combined with dmLT by skin patch (groups 3+4), combined with ALF43 IM (groups 5+6), or combined with HIV Env gp145 C.6980 protein+ALF43 IM (group 7).
All were boosted at weeks 20, 36, 52 with either gp145+Rehydragel (groups 1, 3, 5), gp145+ALF43/Rehydragel (groups 2, 4, 6), or DNA+gp145+ALF43/Rehydragel (group 7).
Binding antibodies (bAb) against consensus or vaccine cognate antigens were assessed using Luminex and ELISA. Neutralization was assessed using the TZMbl assay with tier 1 pseudoviruses from subtypes C, B and CRF01_AE. Peripheral blood mononuclear cell (PBMC) responses were assessed by intracellular cytokine staining against gp145 and gp120 peptide pools and antibody-dependent cellular cytotoxicity (ADCC) was measured against gp145-coated CEM.NKR.CCR5 target cells.
Results: The vaccine was well-tolerated with no difference in adverse events (AEs) between groups and no serious AEs. Two weeks following prime, groups 5+6 generated significantly higher magnitude, cross-clade bAb responses against consensus and gp145 cognate antigens compared to groups 1-4.
No difference was observed in antibody response magnitude between groups post-boost and persisted for 1 year. Group 7 exhibited the highest bAb levels post-prime, and these levels were preserved with boosting.
All groups yielded similar modest tier 1 neutralization. ADCC was higher in group 7 post-prime and increased with boosting in all groups. CD4 T cell responses increased with prime and boost vaccinations, with no difference in magnitude across groups.
Conclusions: ALF43 adjuvant improves DNA priming of this HIV Env vaccine; however, all vaccine/adjuvant combinations attained similar peak antibody titers post-boost. ALF43 in the DNA prime contributed to higher bAb durability.

LB22

Circumcision for HIV prevention in men who have sex with men: an updated meta-analysis and meta-regression

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Background: While circumcision reduces HIV risk for men who have sex with women, its value for men who have sex with men (MSM) remains unclear. Any protection would be for primarily-insertive (PI) MSM; potential impact is high given high incidence. Prior meta-analyses were ambiguous due to inconsistent, highly-confounded data.

We performed an updated meta-analysis with additional data, and mitigated confounding and potentially publication bias by fitting a meta-regression model with interaction between sexual role and circumcision status.

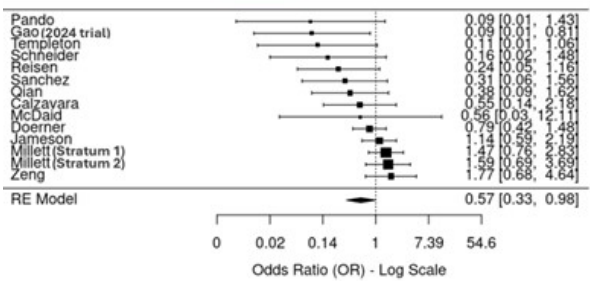
Methods: The observational literature search strategy and findings are described in the companion abstract (02533), which identified 12 studies from five continents with quantitative findings on associations of HIV with circumcision among PI-MSM (as defined by each study). We sought unpublished cell count data from authors on HIV status by circumcision status and sexual role where needed. A 2024 trial was also included. We performed a random-effects (RE) meta-analysis for the main association, using adjusted effect measures when available, and cell counts otherwise.

Among studies reporting stratified results for PI-MSM and other MSM separately, we performed a meta-regression with an interaction term for sexual role. For that analysis, our own primary findings in another companion abstract (03664) were eligible and included also.

Results: Thirteen studies were included in the meta-analysis (see 02533 e-poster); 10 provided data needed for meta-regression. In the meta-analysis (Figure), circumcision was associated with a lower risk for HIV among PI-MSM (odds ratio (OR) = 0.57, 95% CI: 0.33-0.98).

Funnel plots suggested publication bias. In the meta-regression, the interaction term — a ratio of odds ratios — (0.60, 95% CI: 0.42–0.85) indicated a stronger protective association for circumcision among PI-MSM compared to other MSM.

Figure: Forest Plot of the Meta-Analysis of Circumcision for HIV Prevention Among Primarily-Insertive Men who Have Sex with Men



Conclusions: Among PI-MSM, circumcision was protective against HIV. Residual publication bias and confounding are possible. However, findings may reassure PI-MSM considering medical circumcision for HIV prevention.

LB23

Twelve-month retention in a national cohort of PrEP initiators in Rwanda

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Background: Sub-Saharan Africa (SSA) leads the world in PrEP initiations, yet few data from this region describe longer-term PrEP engagement. Understanding retention among PrEP initiators is critical to the success of HIV prevention efforts in SSA. We describe 12-month retention in a national sample of Rwandan PrEP initiators.

Methods: PrEP implementation in Rwanda began in 2019, initially focused on serodifferent couples, female sex workers (FSW) and gay, bi and other men who have sex with men (GBMSM), then expanding to adolescent girls and young women (AGYW) and others. From June 2023-July 2024, we extracted available data on PrEP initiators from primary health centers in the capital of Kigali and Rwanda's four other provinces into a secure electronic database. Among individuals initiating PrEP with ≥12 months between initiation date and database close, we used multivariable logistic regression to assess individual and health center predictors of 12-month PrEP retention.

Results: Data were available for 15,145 PrEP initiators from 105 health centers: 35 in Kigali, 24 in Eastern province, 20 in Western province, and 13 each in Northern and Southern provinces. Program size ranged from 1 to 904 clients. Among all PrEP initiators, 64% were FSW, 16% were AGYW and 11% were GBMSM. Median age was 26 years and 13% reported an STI in the prior six months. Among 8,426 individuals with ≥12 months of potential follow-up time, overall 12-month retention was 54%. Retention was lower among individuals <24 years (vs ≥24: adjusted odds ratio [aOR] 0.82, 95% CI 0.74-0.91) and FSW and AGYW (vs GBMSM: aOR 0.63 [95% CI 0.54-0.73] and aOR 0.75 [95% CI 0.61-0.92], respectively). Retention was higher among those reporting a recent STI (vs. no STI: aOR 1.25, 95% CI 1.08-1.44) and in health centers with smaller PrEP programs (vs. larger: aOR 1.54 [95% CI 0.99-2.37).

Conclusions: In a large sample of PrEP initiators from over 100 geographically diverse health centers in Rwanda, only about half were retained in care 12-months after enrollment. Retention was lower among FSW and AGYW, who constituted the majority of PrEP initiators. Efforts to strengthen retention and support PrEP engagement, particularly during this critical time, are needed.

LB24

Tracking injectable PrEP use and persistence amongst South African adolescents and young people in an era of PrEP choice

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Background: Injectable pre-exposure prophylaxis (PrEP) products promise improved PrEP uptake and persistence. PrEPared to Choose (PtC), a phase 3B clinical trial, tracked uptake and persistence of three PrEP products (oral vs injectable Cabotegravir vs vaginal ring) amongst 1164 South African adolescents and young people (age ≥15 years).

Methods: PtC offered PrEP through a nurse-driven, integrated sexual and reproductive health (SRH) service from two community-based sites (mobile clinic; government clinic) in Cape Town, South Africa. Participants recruited (first come, first served) between February – August 2024 were offered PrEP choice, with unlimited allowance for both product switches and return after periods of discontinuation. Persistence, defined as return for product ≤7 days of a scheduled visit with assumed perfect adherence between visits, was tracked over 7 months.

Persistence amongst injectable PrEP initiators was compared to short-acting PrEP (oral and ring) initiators using a semi-Markov multi-state model that calculated total time spent on PrEP and hazard ratios associated with transitions between injectable PrEP use vs short-acting PrEP use vs time off PrEP.

Results: Participants, predominantly young women (67%,779/1164), PrEP naive (59%,691/1164), and mobile clients (70%, 818/1164), were 2.8 times more likely to initiate on injectable PrEP (74% (862/1164) vs 25% (290/1164) oral vs 1% (12/1164) ring. Injectable users were less likely to discontinue (HR 0.61) or product switch (HR 0.48) compared to short-acting users who were highly likely to both discontinue (HR 9.18) and product switch (HR 12.27).

These outcomes remain unchanged when accounting for participant age, sex, or location of PrEP access. Median time in a PrEP using state was 208 days for injectable initiators vs 28 days amongst short-acting initiators. By month 7, no PrEP users met criteria for "perfect" persistence (i.e. always returned on time, never product switched, no periods of discontinuation).

Conclusions: Real-world, non-reimbursed PrEP use is characterised by dynamic periods of PrEP discontinuation, re-initiation, and product switching. In this context, injectable PrEP uptake, continuation on the same modality, and continuation on PrEP overall is greater than that for short-acting PrEP products over the short-term.

Analyses of persistence that account for diverse PrEP use behaviours better represent real-world PrEP use.

LB25

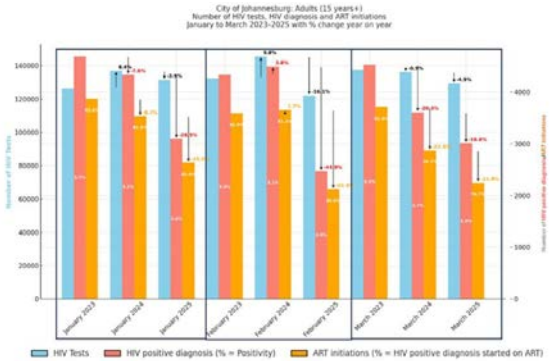
Termination of the USAID APACE award in Johannesburg, South Africa: impact on the number of people living with HIV tested, diagnosed and initiated on anti-retroviral therapy (ART) (January-March 2023-2025)

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Background: The United States President's Emergency Plan for AIDS Relief (PEPFAR), through USAID, funded the Accelerating Program Achievements to Control the HIV Epidemic (APACE) award. The purpose of the award was to support the Department of Health to achieve the 95-95-95 goals in Johannesburg District (JHB), with an estimated 623,200 adults living with HIV. APACE activities in JHB ceased immediately following the Stop Work Order on 21st January, with the award terminated in February 2025.

Methods: Routine indicators—HIV tests, HIV positive diagnoses, and ART initiations—were compared across Q1 2023 to 2025 to account for seasonal variation. HIV positivity and initiation rates were calculated. Clinicians recorded visits in standardized paper-based stationery, with data entered in TIER.Net and exported to WebDHIS, from which data was extracted in April 2025.

Results: HIV testing decreased by 8.5% from Q1 2024 to Q1 2025, with a 31% reduction in HIV diagnosis and 30% reduction in ART initiations. HIV positivity declined from 3% to 2.2% while the ART initiation rate remained stable at 81-82%. Figure 1 shows monthly data for Q1 2023-2025.



Conclusions: Termination of USAID support resulted in fewer HIV tests and substantially greater reductions in HIV diagnoses and ART initiations in Q1 2025. This likely reflects the loss of key healthcare workers, including counsellors providing index and targeted community-based HIV testing to people most vulnerable to HIV acquisition. The loss of data capturers impaired data capturing and monitoring. While some under-capture of HIV tests is possible, the sharper declines in diagnoses and initiations are considered reliable. Loss of technical support for data analysis and use has also weakened health facilities' ability to respond to the rapidly declining numbers of people living with HIV diagnosed and initiated on ART.

LB26

Accelerating HIV elimination: the role of 4th generation rapid diagnostic tests in Uganda

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Background: 'Acute HIV', the initial stage within the first two-to-four weeks of HIV acquisition, is highly contagious due to the rapid multiplication of the virus and the resulting high viral load. Although 'acute HIV' represents a small portion of overall HIV cases, its high infectivity accounts for approximately 25% of new HIV transmissions. Diagnosing 'acute HIV' infections can play an integral role in reducing onward transmission and improving health outcomes. Current (3rd) generation rapid diagnostic tests (RDTs) only can detect chronic HIV, whereas 4th generation RDTs can detect both acute and chronic HIV.
The objective of this study was to provide novel insight into how acute phase detection may impact overall HIV transmission. A health-economic model was utilized to estimate the impact of introducing 4th generation RDTs in Uganda.
Methods: A health-economic model was developed to analyze the impact of replacing 3rd generation RDTs with 4th generation RDTs in Uganda. The model used a decision tree structure to determine the starting population, and then subsequent months were simulated by having the population move between relevant health states based on testing approach, HIV transmission risk, treatment reception, awareness of HIV status, and mortality risk (Figure 1).



Results: The analysis indicates that introducing 4th generation tests in Uganda will result in detecting 1,800 'acute HIV' cases over 10 years. Additionally, due to the highly infectious nature of 'acute HIV' this translates to over 3,000 HIV cases averted, 600 HIV-caused deaths avoided, and over $18 million USD in total healthcare cost savings relative to using current 3rd generation tests.
Conclusions: This analysis provides important insight into how identifying people in the acute phase – by replacing 3rd generation tests with 4th generation tests – has a multiplicative effect on reducing new HIV cases, thereby lowering the health and economic burden.

LB27

Lessons from implementing a human rights and gender-based harm reduction project for people who use drugs in Rwanda

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Background: The TUBITEHO (Let's Take Care of Them) project is a three-year initiative (Oct 2023–Sept 2026) led by Health Development Initiative (HDI) and partners, aimed at improving the health and rights of People Who Use Drugs (PWUD) in Rwanda. Rooted in a human rights and gender-sensitive approach, the project addresses high HIV prevalence among PWUD (9.05%), which is three times higher than the general population, and barriers to accessing essential health services due to stigma, legal constraints, and criminalization.
Description: Implemented in Gasabo, Nyarugenge, and Rubavu districts, the project has developed and rolled out a peer education network (60 peer educators), trained law enforcement, local leaders, and healthcare providers, and engaged in advocacy with national institutions including the Ministry of Health, the Rwanda Biomedical Center, and security organs. Key interventions include sensitization workshops, development of harm reduction training manuals, and a national mapping and size estimation study on PWUD. Despite disruptions caused by the Mpox and Marburg outbreaks, the project adapted swiftly to ensure continuity.
Lessons learned: Key successes include improved stakeholder collaboration, increased understanding of harm reduction (43.32% knowledge increase among law enforcers), and the establishment of a functioning peer support network. Over 350 PWUD were reached with training on diverse health topics (HIV, Hepatitis B&C, overdose and suicide prevention).
The project initially faced resistance from law enforcers, believing it promoted drug use. Through dialogues explaining the intent, they became supportive. Moving forward, the team prioritizes clear communication to ensure stakeholders understand that TUBITEHO supports access to healthcare for PWUD.
The project also encouraged behavior change; individuals initially hesitant about HIV testing became willing and left knowing their status.
Conclusions/Next steps: The TUBITEHO project demonstrates that integrated harm reduction services grounded in human rights and gender equity can shift perceptions, reduce systemic barriers, and improve access to HIV and related health services for PWUD.
Future steps include disseminating findings from the mapping and baseline studies, refining the national minimum service package for harm reduction, and scaling up interventions through continued multi-sectoral advocacy and policy engagement.

LB28

Telehealth Triumph: Electronic initiation (e-initiation) to reduce linkage loss to Anti-retroviral therapy initiation during the year 2024 among newly diagnosed People living with HIV) in the Northeastern States of India

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Background: According to the aggregated data analysis of monthly reports for the period April- Aug 2023 from Nagaland and Manipur states of India, 88% of people living with HIV (PLHIV) aware of their status were on HIV treatment. The gap was primarily due to linkage loss (10%) between testing and treatment facilities. The remote terrain and limited transportation facilities were identified as most common barriers to access treatment facilities. The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) supported project Sashakt provided technical assistance to these states for the electronic-initiation (e-initiation) of Anti-Retroviral Treatment (ART) during the year 2024 at eight HIV testing sites and three ART centers with the highest linkage loss.

Description: E-initiation of ART offers a person-centered approach to strengthen linkage between existing ART Centers with medical officers (MOs) and testing or treatment sites without MOs, for decentralized e-initiation of ART. The MO at ART centers provided technical guidance through virtual platforms (e.g. Zoom) to initiate newly diagnosed PLHIV on treatment at decentralized sites (those without MOs) The health care providers at decentralized sites were trained as per national guidelines for rapid ART initiation and counselling for continuation of treatment. Post initiation, PLHIV visited the decentralized site every month for pill pick-up, adherence and psychosocial support aligned with national guidelines.

Lessons learned: Between April 2023 and September 2024, 110 PLHIV (55% females, 48% >36 years of age) were newly diagnosed at the eight sites; 43% (47/110) were initiated on treatment. The remaining 63 (57%) PLHIV were not able to travel and project staff contacted them telephonically to initiate ART through e-initiation. Among these, 97% (61/63) began ART, leading to an overall 98% linkage rate (108/110). As of September 2024, 89% (54/61) of those who began ART through e-initiation remained on treatment.

Conclusions/Next steps: E-initiation improved rapid treatment initiation among newly diagnosed PLHIV in remote areas, contributing to improved health outcomes while minimizing travel and cost-related barriers. E-initiation of ART could be scaled across other remote and resource-limited settings to advance epidemic control goals.

LB29

PHOENIX Trial: Predictive host omics and epidemiologic networks for integrated exit from HIV Transmission in MENA

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Background: HIV transmission in the MENA region is rising, driven by delayed diagnosis, stigma, and limited PrEP and ART access. Standard strategies lag behind shifting transmission patterns shaped by migration, urbanization, and conflict.

Precision-guided, region-specific interventions are urgently needed to reverse silent spread and meet global control targets.

Methods: PHOENIX Trial (5-year, 22,000 participants, 6 countries) studies HIV across 4 cohorts: new HIV (6,000), PrEP (4,000), ART-naïve (5,000), controls (7,000). It uses quarterly reviews, digital tracking, biospecimens (WGS, transcriptomics, methylation). A nested RCT (n=3,600) compares Cabotegravir/Rilpivirine vs. Tenofovir for suppression/resistance. AI mHealth/PrEP modules, geo-tagged data, and neural nets predict outbreaks. Bayesian/Cox models analyze suppression, resistance, PrEP failure. Ethics: GDPR-aligned IRBs.

Results: A study of 22,000 participants (91%+ retention, 40.3-month median follow-up) showed:

1. Cabotegravir/Rilpivirine achieved 96.4% virologic suppression in ART-naïve individuals at week 48, surpassing Tenofovir (88.1%, p<0.0001), with a 58% resistance mutation reduction (p=0.002).

2. A 17-gene host signature predicted viral control (AUC 0.93, validated n=620).
3. Mobile nudging increased PrEP adherence by 32.5% (p=0.004) and reduced HIV incidence by 46.2% (p=0.0007).
4. AI risk modeling predicted outbreaks (89.7% sensitivity), preempting surges in Lebanon/Iraq (24.1% cluster reduction).
5. Young males (18-24) had higher nonadherence (OR 3.7; 95% CI 2.6–5.1), prompting tailored outreach recommendations.
6. Novel recombinant HIV clades were identified, requiring cross-border ART coordination. All endpoints were statistically significant (FDR corrected).

Finding	Clinical Implication
Long-acting Cabotegravir/Rilpivirine superior to Tenofovir in sustained viral control (96.4% vs 88.1%)	Supports shifting first-line therapy in eligible populations to long-acting injectable regimens for better long-term outcomes.
58% reduction in resistance mutations with long-acting regimen	May reduce the need for costly genotypic testing and complex salvage regimens, improving care access and cost-effectiveness.
17-gene host signature predicts durable viral suppression (AUC: 0.93)	Opens pathway for precision-guided therapy stratification and personalized treatment planning.
PrEP adherence improved by 32.5% with digital behavioral tools	Validates scalable tech-based adherence supports for real-world application, especially among younger individuals.
46.2% reduction in new seroconversions among digitally supported PrEP users	Strong case for integrating behavioral health platforms in national PrEP rollout strategies.
Neural net outbreak forecasting had 89.7% sensitivity	Enables early deployment of prevention resources in high-risk zones before transmission intensifies.
Reduced expansion rates in Lebanon and Iraq by 24.1% through predictive response	Demonstrates tangible benefit of precision public health in humanitarian and mobile settings.
Stigma-associated nonadherence most marked in males 18–24 (OR 3.7)	Justifies targeted outreach programs and culturally sensitive messaging for key demographic segments.
Discovery of three novel recombinant regional clades	Highlights urgency of harmonized genomic surveillance and coordinated response protocols across neighboring states.

Table 1: Clinical Implications of Key Findings from the PHOENIX Trial

Category	Key Finding	Statistical Significance
Cabotegravir/ Rilpivirine Efficacy	96.4% virologic suppression (ART-naïve, week 48) vs. Tenofovir (88.1%); 58% resistance reduction	p < 0.0001 (suppression), p = 0.002 (resistance)
Host Signature Prediction	17-gene signature predicted viral control (AUC 0.93, validated in n = 620)	High accuracy (AUC 0.93)
Mobile Nudging Impact	+32.5% PrEP adherence; −46.2% HIV incidence	p = 0.004 (adherence), p = 0.0007 (incidence)
AI Outbreak Prediction	89.7% sensitivity in predicting outbreaks; 24.1% cluster reduction in Lebanon/Iraq	Statistically significant (FDR-corrected)
Nonadherence Risk Group	Young males (18–24) had higher nonadherence (OR 3.7; 95% CI 2.6–5.1)	Significant (CI excludes null)
Novel HIV Clades	Recombinant clades identified, necessitating cross-border ART coordination	FDR-corrected significance

Table2: Key Findings from PHOENIX Trial

Conclusions: PHOENIX Trial: Technology-driven HIV management optimizes treatment and prevention across nations. Future studies should focus on long-term AI, genomics, stigma, clade surveillance, cost-effectiveness, implementation, and comorbidities.

LB31

Inclusive or Invisible? A mixed-methods evaluation of SRHR access for LGBTQI+ youth in EECA

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Background: This study evaluates the sexual and reproductive health and rights (SRHR) needs of LGBTQI+ youth (aged 18–28) across 14 countries in Eastern Europe and Central Asia (EECA). It examines how legal, institutional, and social barriers shape access to SRHR services and addresses urgent gaps in sexuality education, HIV prevention, and gender-affirming healthcare—especially among youth marginalized by sexual orientation, gender identity, socio-economic status, and rural residency.
The research aims to provide timely, community-driven evidence to inform inclusive, youth-led policy reform.
Methods: A mixed-methods approach was used between June and December 2024. A cross-sectional online survey (n = 1,033 valid responses) and 14 semi-structured focus group discussions were conducted with LGBTQI+ youth using purposive and snowball sampling. The study was led by trained youth researchers in partnership with national LGBTQI+ organizations. Quantitative data were analyzed using descriptive and inferential statistics, including logistic and ordinal regression. Qualitative data were thematically coded following Braun & Clarke's framework.
Results: Only 22% of participants received comprehensive sexuality education; 52% had no access. While 60% were aware of PrEP, only 7.9% used it. Access to gender-affirming care was reported as "not easy" by 52%. Comfort in discussing SRHR needs with providers was especially low among transgender and non-binary youth. Urban respondents had better access to services than rural counterparts. The sample included diverse identities: 28% cisgender male, 27% cisgender female, 16% non-binary, 10% transgender male, and 9% transgender female. Gay (30%) and bisexual (26%) youth were the most represented sexual orientations. Age groups 18–19 (23.1%) and 26–28 (22.2%) had the highest representation.
Conclusions: The findings expose systemic SRHR access barriers, particularly for transgender and rural youth, exacerbated by legal restrictions, discrimination, and inadequate provider training.
This study is submitted as a late-breaker due to the novelty and regional scope of the data—collected and analyzed in late 2024—and its relevance to ongoing policy processes. It demonstrates the urgency of institutionalizing gender-affirming care, expanding inclusive sexuality education, and improving PrEP access. Participatory, youth-led advocacy is critical to advancing SRHR equity in the EECA region.

LB32

Psychological impact of analytical treatment interruption on young women enrolled in an HIV cure-related trial in Durban, South Africa

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Background: Analytical treatment interruption (ATI) is an essential tool for assessing HIV cure interventions but poses unique psychological risks. Limited data exist on mental health impact from ATI, with even less known about challenges faced by women and no prior assessment performed in low- and middle-income countries.
For the first time, this study assessed mental health among young women during an ATI-inclusive HIV cure-related trial testing a combination of two broadly neutralizing antibodies, VRC07-523-LS and CAP256V2LS, with a toll-like receptor 7 agonist (Vesatolimod) in Durban, South Africa.
Methods: Twenty women (23–32 years old) participating in an ATI-inclusive trial were co-enrolled in a socio-behavioral study. Mental health was assessed at four time-points during the trial: baseline (T1), pre-ATI (T2), post-ATI (T3), and end of study (T4) using validated scales: decisional certainty (5-item scale), self-esteem (Rosenberg), resilience (2-item measure), anxiety (GAD-7/state anxiety) and depression (PHQ-8).
We identified three distinct virological patterns during ATI, each corresponding to an ART restart group: early (n=7), delayed (n=7), and late (n=6), and stratified analyses accordingly.
Results: Nineteen of 20 completed all study time-points. Decisional certainty increased from a median of 4.70 to 5.00 at trial end (IQR 0.80 and 0.00). Self-esteem remained high (T1 median: 24.5; T4: 26.0), with consistently higher scores in the delayed ART restart group. Resilience scores were stable (median range: 4.50–4.75), with slight increases among early ART restart participants.
Anxiety peaked immediately before ATI (T2 median: 33.3, IQR 11.5), then declined post-ATI (T3: 25.0), with highest anxiety in the late ART restart group.
Depression remained low overall (T1 median: 2.0, IQR 9.8; T4: 4.0, IQR 5.5), but was elevated in the late ART restart group (T1 median: 11.0; T4: 8.0).
Conclusions: ATI was well-tolerated psychologically among young women enrolled in ATI-inclusive HIV cure trial in South Africa. Sustained or improved decisional certainty, self-esteem, and resilience were observed during participation, while increased anxiety and depression were associated with prolonged-ATI (late ART restart). Findings support the inclusion of young women in ATI-inclusive trials but highlight the need for mental health assessments and directed psychosocial support, especially for trials that include prolonged ATIs.

LB33

Too vital to fail: national survey reveals sustainability risks facing HIV-serving organizations in the United States

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Background: HIV-serving organizations (HSOs) provide critical prevention, care, and harm reduction services in rural and underserved communities. Yet mounting financial pressures, federal policy changes, and workforce burnout threaten their long-term viability. In 2025, the Community Education Group launched a national survey to assess the sustainability of HSOs, examining their dependency on federal funding, financial outlook, and readiness to adopt adaptive strategies.
Methods: A confidential, web-based survey was conducted between March 11 and April 7, 2025 across the U.S. and territories. 41 respondents included community-based organizations, health departments, FQHCs, and harm reduction coalitions. The survey combined multiple-choice and open-ended questions focused on service delivery models, budget allocations, federal dependency, organizational needs, and openness to restructuring. Data were analyzed using descriptive and thematic methods.
Results: All respondents provide HIV services, with 33 offering HCV testing—demonstrating widespread syndemic care integration. Budget allocations revealed a polarized field: 16 dedicate less than 25% of budgets to HIV services, while 14 allocate 75% or more.
Nearly all respondents rely on federal funding, yet most reported they could maintain HIV-related operations for 90 days or less without it. Few respondents mentioned the 340B Drug Pricing Program, those who did called it essential for supporting outreach, mobile services, and culturally responsive care.Confusion persists about its classification and long-term viability.
Approximately 71% expressed openness to adaptive strategies such as mergers, shared services, or restructuring—though most lack formal plans or resources to act. The top organizational needs were financial sustainability, capacity-building, policy and advocacy guidance, and emergency financial and legal assistance related to partner instability. Rural respondents emphasized any loss of federal support would destabilize broader service ecosystems, disrupting not only HIV care but also access to housing, mental health, and transportation services.

Conclusions: HSOs operate on fragile financial margins, and the loss of federal HIV funding—whether direct or indirect (via 340B)—would have cascading effects across public health infrastructure. The field is ready to explore adaptive models, but requires technical, legal, and financial support to do so effectively. Sustaining these organizations is essential to maintaining HIV care continuity and advancing national End the Epidemic goals.

LB34

Identifying factors influencing HIV testing behavior among High-Risk elderly men: a mixed-methods study incorporating structural equation modeling and thematic framework analysis

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Background: Despite China's continuous efforts to strengthen HIV testing, proactive testing rate remains significantly low. This study identifies key factors influencing HIV testing behavior among high-risk elderly and exploring the underlying mechanisms and sociocultural contexts to inform targeted interventions.
Methods: An explanatory sequential mixed-methods design was employed.
Quantitative (September–December 2024): 300 high-risk men aged ≥50 were recruited by non-probability sampling in Dehong Prefecture, Yunnan Province, China's first region to achieve the „90-90-90" targets. Face-to-face surveys collected sociodemographic characteristics, HIV knowledge, risk behaviors, and testing history. A 30-item scale was developed based on the Information-Motivation-Behavioral Skills model and Self-Determination Theory to assess influencing factors. Exploratory factor analysis (SPSS 25.0) and SEM (AMOS 24.0) assessed pathways and effect sizes.
Qualitative (January–February 2025): 30 typical participants were purposively sampled. Semi-structured in-depth interviews were transcribed, coded using NVivo 12 and thematically analyzed to contextualize quantitative results.
Results: Quantitative analysis revealed an HIV testing rate of 57.7%, with 68.2% passive. Among participants, non-commercial sex with non-regular partners was reported by 56.0%, 31.0% of these forwent condoms due to reduced pleasure (42.3%).
Commercial sex was reported by 85.3%—44.4% of non-condom users cited the same reason. SEM analysis identified **self-efficacy as the strongest positive predictor** (**total effect = 0.32**, **p<0.05**), while **behavioral skills (-0.21, p<0.05) and HIV information (-0.20, p<0.05) exhibited significant negative effects**. The model fit was acceptable (RMSEA=0.073, CFI=0.94). Qualitative findings further elucidated underlying mechanisms.
Self-efficacy: high self-efficacy was reinforced by „peer success stories," while low self-efficacy shaped by stigma associated testing with „moral corruption".
Behavioral skills: Operational barriers, such as complicated self-testing procedures, small font sizes and privacy concerns, hindered testing.
HIV information: overemphasis on fatality messaging triggered psychological defense mechanisms. Additionally, information dissemination channels were misaligned with older adults' media consumption habits. Rural communities widely perceived HIV as a "young disease," further dampening testing motivation.
Conclusions: Self-efficacy facilitates HIV testing among high-risk elderly men, whereas usability issues, ineffective messaging strategies, and cultural perceptions suppress testing behavior. Interventions should focus on enhancing self-efficacy, optimizing age-friendly self-testing tools, adopting non-fear-based messaging strategies, and integrating HIV screening into chronic disease check-ups to break cultural biases.

LB35

Risk of conscription affects engagement of sexual minority men in care in Ukraine

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Background: Sexual minority men (SMM) are the only group with rising HIV incidence in Ukraine. With 3.7 million remaining internally displaced as of February 2025 due to the Russian invasion, and all men aged 25-60 being eligible for conscription for military service, engagement of SMM, including forcibly displaced SMM (fdSMM), in HIV care remains a priority to prevent the rise of HIV during and after the war.
Methods: We analyzed preliminary data from an on-going cohort study of SMM in Ukraine, which started in November 2024 and recruited 717 participants as of April 2025. Participants were asked about their HIV risk behaviors, including health seeking behaviors, and administered a social network inventory and a rapid HIV test with subsequent dried blood spot (DBS) sample collection in the case of a positive result.
Associations between displacement status and reasons to not seek medical care (including HIV care) were explored using bivariate logistic regression.
Results: Half of the study sample was forcibly displaced (n=368, 51%); at the time of the survey, the majority was never married (n=654, 91%), lived in their own apartment (n=554, 77%), had education beyond high school level (n=646, 83%), and were getting by financially (n=520, 73%).

N=46 (6.4%) tested positive for HIV. The most common reason for SMM to avoid any medical care (regardless of the HIV status or other comorbidities) in the last 6 months was risk of conscription (n=308, 43%), with the majority saying they specifically fear being conscripted on the way to the clinic (n=302, 98%).
Risk of conscription was also the most common reason for SMM to avoid HIV-specific services (n=249, 35%). Forcibly displaced SMM were more likely compared to local SMM to avoid HIV care for fear of medical staff sharing their information with the military (10% vs 6%, OR=1.72, 95%CI 0.97 – 3.05).
Conclusions: Risk of conscription on the way to a hospital/clinic is impacting Ukrainian SMM's ability to access HIV-specific and general medical care. Novel ways to deliver HIV services need to be developed in the reality of the war to improve access to care for SMM in Ukraine.

LB36

Internalised homonegativity among men-who-have-sex-with-men and its associations with societal stigma, policy environments and HIV risk in 41 European countries

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Background: Among men-who-have-sex-with-men (MSM), internalised homonegativity (IH) is theorised to influence HIV risk. We quantified levels of IH among MSM and assessed associations with societal stigma and sexual and health-related outcomes.
Methods: We analysed data from 49,267 MSM in 41 countries participating in the 2017 European MSM Internet Survey, a self-selecting online sexual health needs assessment. IH was assessed using the short internalised homonegativity scale (range 0-low to 6-high). We calculated median IH score for countries and assessed correlation with countries' Rainbow Index (RI), a measure of LGBTI policy environments (range: 0-repressive to 100-liberal).
We assessed ecological and individual-level associations between IH and experience of homophobic societal stigma, depression, suicide ideation, HIV risk behaviours, HIV testing history, treatment and prevention uptake.
We used linear and multi-level logistic regression models (adjusted for age, education, and sexuality identity) with random intercepts for country and recruitment source.
Results: Country's median IH score varied between 0.93-2.8 and was negatively correlated with RI (R^2=0.54) (figure). At individual level, higher IH levels were negatively associated with past year experiences of homophobic intimidation (AOR=0.87, 95%CI:0.86-0.88), verbal insults (AOR=0.85, 95%CI:0.84-0.87), and physical assault (AOR=0.90, 95%CI:0.88-0.93), and positively associated with depression (AOR=1.19, 95%CI:1.17-1.21) and suicide ideation (AOR=1.26, 95%CI:1.23-1.28).
IH score was associated with lower odds of having ever had anal sex with men (AOR=0.79, 95%CI:0.76-0.82), having a steady (AOR=0.78, 95%CI:0.77-0.80) or non-steady male partner in past year (AOR= 0.92, 95%CI:0.90-0.94), engaging in chemsex in past year (AOR= 0.82, 95%CI:0.80-0.85), ever using illicit (AOR= 0.82, 95%CI:0.80-0.83) or injectable drugs (AOR= 0.91, 95%CI:0.86-0.97).
IH was associated with lower odds of HIV infection (AOR=0.88, 95%CI:0.85-0.91), being offered (AOR=0.86, 95%CI:0.80-0.92) and receiving an HIV test in past year (AOR=0.93, 95%CI:0.90-0.95), and lifetime PrEP use (AOR=0.78, 95%CI:0.74-0.83). IH was not associated with ART use. Ecological analyses were broadly consistent with these findings.
Conclusions: Levels of IH vary across Europe and are associated with LGBTI policy environments. The complexity highlights its potential impact on the well-being of MSM, influencing both HIV prevention and treatment uptake and mental health outcomes. This underscores the critical importance of fostering inclusive policies to reduce IH among MSM to improve health outcomes.

LB37

Systemic reproductive coercion and rights violations among women living with HIV across twenty-three countries.

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Background: Despite scientific advances and global recognition of sexual and reproductive health and rights, women living with HIV continue to experience violations in healthcare settings. These include not only forced sterilization but also routine coercive practices such as pressure to use certain contraceptives, discouragement from pregnancy, or denial of infant feeding options.
Such interventions are often presented as medically justified but undermine autonomy and informed consent. These violations reflect broader systemic failures in policy and practice, particularly in the care of marginalized populations.
Methods: This mixed-methods study, led by the International Community of Women Living with HIV, was conducted between 2020 and 2023 across 23 countries. Data sources included an online qualitative survey, 34 in-depth interviews with women, trans, and gender-diverse people living with HIV, a scoping review of grey and academic literature, and a gender analysis of aggregated data from

26,502 women in the Stigma Index 2.0. Thematic analysis explored patterns of reproductive coercion across contraception, pregnancy, childbirth, and infant feeding, with attention to structural and legal barriers.

Results: Nearly one in five respondents reported experiencing reproductive coercion. These experiences were most common during pregnancy and breastfeeding care and disproportionately affected sex workers, migrants, women who use drugs, and women with disabilities.

The data showed widespread lack of informed consent, denial of care, discriminatory practices, and outdated clinical guidance. About 14% of those affected had reported violations, citing fear, stigma, or lack of accessible reporting mechanisms.

Conclusions: Reproductive coercion in HIV care is not limited to individual misconduct but reflects systemic patterns of control, exclusion, and gendered stigma. Policies, clinical protocols, and legal environments must be updated in line with current evidence and international human rights standards.

This study contributes actionable evidence to inform health system reform, provider training, rights-based policymaking, and legal accountability. Centering the lived experiences of women living with HIV is essential to transforming reproductive healthcare and ensuring justice in HIV responses globally.

LB38

"I'm tired of taking pills every day": participants' choices and experiences of the Cabotegravir plus Rilpivirine Long-Acting (CAB + RPV LA) efficacy and safety trial in sub-Saharan Africa (CARES)

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Background: The search for acceptable anti-retroviral treatment (ART) options is ongoing. Daily oral ART does not suit all clients, and injectable cabotegravir and rilpivirine long-acting regimen (CAB +RPV LA) has shown to be an acceptable and desirable option in high-income settings.

This qualitative sub-study, conducted as part of the CARES Phase 3b trial in three sub-Saharan African countries, explored participants' experiences with this treatment option for people living with HIV in this context.

Methods: Research was conducted in 2023 with 172 consenting African participants [96 females (56%) and 76 males (44%)] coming to the end of the 96-week study across eight sites in Kenya, Uganda and South Africa. 133 in-depth interviews were conducted with 69 participants (52%) from the standard of care (SOC) arm and 64 (48%) from the intervention arm.

An additional four focus group discussions were conducted with a total of 39 participants. Interviews and discussions were recorded and transcribed, and thematic analysis undertaken, with Atlas TI software used for data coding.

Results: Despite prior concerns regarding injection pain and likely efficacy of the injection, 100% (69/69) of interviewed participants from the trial intervention arm

expressed positive attitudes about the long-acting injectable (LAI) and would prefer to stay on it indefinitely. These participants associated the injection with less worry, reduced social stigma, improved health, and greater convenience. 78% (50/64) of interviewed SOC participants expressed a willingness to switch to the injection.
Perceptions of reduced pill burden, increased privacy, convenience, effectiveness and the competence of healthcare workers were cited as factors to consider when making the choice to switch.
Those who expressed a reluctance to switch to LAI (20%) highlighted the familiarity and convenience of oral ART, and a lack of knowledge about the injection, with fears about pain, efficacy and availability.
Conclusions: These findings highlight the importance of client choice in ART, with experienced participants expressing a preference for LAI and desire to switch to injectable ART among SOC participants. In sub-Saharan Africa, where stigma and adherence challenges persist, LAI could improve treatment outcomes.
Addressing concerns through client education and effective systems and services are important for expanding choice to include LAI.

LB39

Predicting viral non-suppression in REMAIN, a digital cohort of people living with HIV in the United States

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Background: Although antiretroviral therapy (ART) is widely available in the United States, a large share of people living with HIV (PLHIV) remain virally non-suppressed. Understanding the factors that put PLHIV at risk for HIV viral non-suppression could offer opportunities for targeted HIV treatment interventions. In a digital cohort of PLHIV, we modeled associations between baseline covariates and viral non-suppression.
Methods: REMAIN is an app-based digital cohort following PLHIV in the United States. Between February 2024 and March 2025 1032 PLHIV were recruited through online dating sites, social media, and AIDS Healthcare Foundation HIV clinics. PLHIV were eligible if they were ≥18 years, spoke English or Spanish, had access to a smart phone, and had risk for non-suppression. Baseline variables included demographic, HIV treatment, substance use, sexual activity, adherence self-efficacy items, and mental health characteristics. The relationships between baseline characteristics and HIV viral non-suppression were examined through bivariable regression and multivariable elastic net modeling.
Results: Seven hundred forty-two participants had viral load results ascertained at baseline. Of these, 36% (268/742) had an unsuppressed viral load (≥200 copies). Median age was 37 years. In bivariable analysis, the odds of viral non-suppression were higher among those who were younger, had sex with men, and reported specific mental health or adherence self-efficacy challenges.
Other demographic, behavioral and substance use covariates were not significantly associated with viral non-suppression. The multivariate model was moderately predictive with an area under the receiver-operating characteristic curve (AUC) of 0.75 (95% CI: 0.71-0.79).
Conclusions: Over one-third of PLHIV in this digitally-recruited cohort were not virally suppressed. While several characteristics emerged as predictors of viral non-suppression, their predictive capacity was only moderate. These results underscore the need to examine real-time dynamic factors influencing ART non-adherence and viral non-suppression. Leveraging the REMAIN cohort, future work will explore interventions tailored to changing time-varying adherence predictors, moving us closer to sustained viral suppression and improved health outcomes for PLHIV.

LB40

Bridging faith and public health: a youth-driven, rights-based approach to TB prevention in South African faith communities

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Background: Despite South Africa's extensive TB response, youth engagement in TB prevention remains limited, particularly within marginalized and faith-based communities. Structural and cultural barriers, including generational hierarchies, stigma, and misinformation, often exclude young people from health decision-making. Faith-Based Organizations while trusted and deeply embedded in communities, remain underutilized in TB strategies.
This study sought to explore how youth from diverse faith communities perceive TB and to co-design participatory, culturally anchored, and rights-based approaches to TB prevention.
Description: A qualitative exploratory study was conducted between 2023–2024 in Johannesburg with 38 youth (ages 18–30) from Christian, Muslim, and Rastafarian communities. Five focus group discussions (FGDs) were facilitated using a semi-structured guide developed through Community-Based Participatory Research (CBPR) and Human-Centered Design (HCD) principles. Specifically, the "Define" and "Develop" phases of the Double Diamond model were applied to co-create intervention ideas. Data were thematically analyzed through affinity diagramming and cross-case analysis, using Mural collaborative boards to support youth-led synthesis and validation.
Lessons learned: Participants viewed TB as both a medical and social justice issue, citing stigma, misinformation, and passive institutional messaging as key barriers. Youth highlighted FBOs as powerful platforms for TB educa-

tion, but noted resistance from conservative leadership structures. Proposed interventions included faith-aligned health clubs, music and spoken word campaigns, drama-based advocacy, and WhatsApp-driven peer support networks. Importantly, participants framed TB prevention as a matter of dignity, participation, and intergenerational equity. The study also revealed a readiness among youth to lead but a lack of institutional frameworks to support them

Conclusions/Next steps: Faith-based TB prevention must move beyond top-down health messaging to embrace youth agency, cultural resonance, and community co-ownership. Embedding human rights principles including participation, accountability, and non-discrimination into FBO-public health partnerships can transform TB responses in underserved areas. Policymakers should invest in youth leadership pipelines, co-design methodologies, and integrated training for FBOs to align spiritual care with public health equity.

LB41

Improving HIV risk assessment among Black women: A machine learning HIV prediction model in Atlanta, Georgia

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Background: Accurately identifying HIV risk in women is crucial to increase HIV pre-exposure prophylaxis (PrEP) usage but is complicated by the complex interplay of non-behavioral factors. HIV prediction models may bridge this gap, but prior models have been less accurate in women, particularly Black women.

Methods: We developed an electronic health record (EHR)-based machine learning model to predict HIV diagnosis in women. We included adult persons with female sex seen at the Grady Health System between 2012 and 2022. We identified 180 EHR features as potential predictors, including novel sociostructural and healthcare utilization features. We selected features using LASSO regression and trained the model with an XGBoost classifier. We evaluated model performance using area under the receiver operating characteristic curve and precision-recall curve (AUROC, AUPRC). We used Shapley additive explanations (SHAP) to quantify the importance of each included feature to the model.

Results: Of 333,263 eligible women, 617 (0.19%) had an incident HIV diagnosis, 551 (89%) who identified as Black. The model AUROC was 0.85 +/- 0.02 and AUPRC was 0.08. The most significant predictors for HIV were younger age, seeking HIV screening, Black race, fewer healthcare encounters, residing in high HIV incidence zip codes, and frequent changes to phone number or address. Seeking sexual health services was more predictive than STI positivity.

Figure 2. Feature Contributions to Model Predictions (SHAP Values)

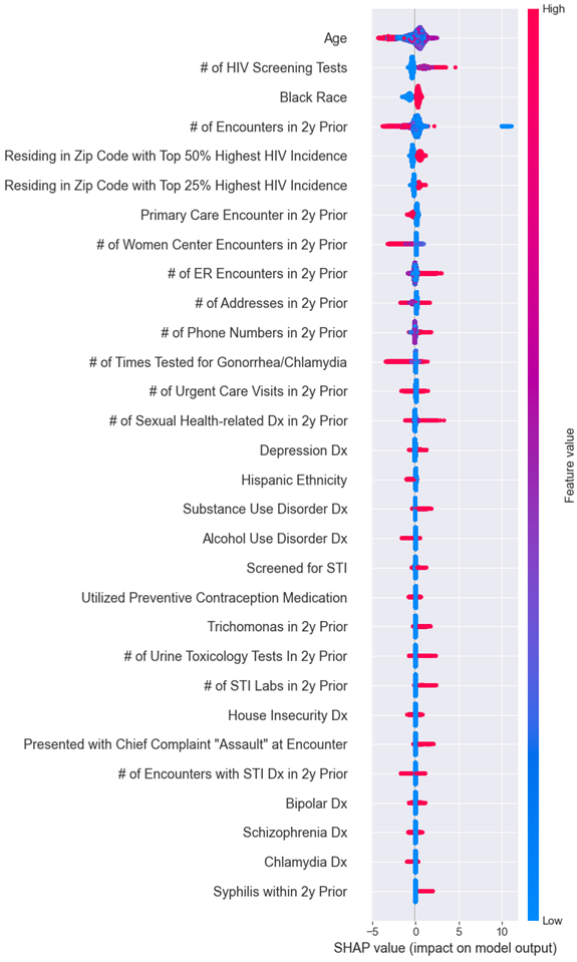
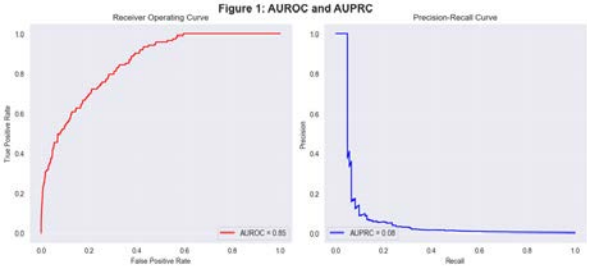


Figure 1: AUROC and AUPRC



Conclusions: Our model demonstrated a high discriminatory ability in predicting HIV among women in a predominantly Black population. We hypothesize that adding structural and healthcare utilization features and being in an area with high HIV incidence led to higher model accuracy.

LB42

Cutting costs without cutting care: the cost and impact of substituting provider-administered HIV testing with HIV self-testing at facilities

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Background: With increasingly constrained HIV-related funding and human resources, HIV programmes are considering more flexible and efficient testing options. We modeled the cost and human resource implications of substituting provider-administered HIV testing with HIV self-testing (HIVST) for the first assay in facility-based testing.

Methods: We developed a static model of the HIV testing continuum, incorporating initial screening (provider-based or HIVST in facilities), two confirmatory tests for reactive results, and varying final treatment initiation rates by testing modality (89% for HIVST and 93% for provider-administered) based on literature.

We compared two scenarios to explore bounds of impact: (1) 5 million provider-administered tests, (2) 5 million facility-based HIVST. Outcomes included: confirmed HIV diagnoses, ART initiations, total cost, and staff-time required.

We assumed 2.5% prevalence among testers, and test costs of $0.80 (provider-based), $1.60 (confirmation), and $1.50 (HIVST); provider-time ($0.06/minute) differed by test type: 20 minutes/HIV-negative provider-administered test, 2 minutes/HIV-negative HIVST.

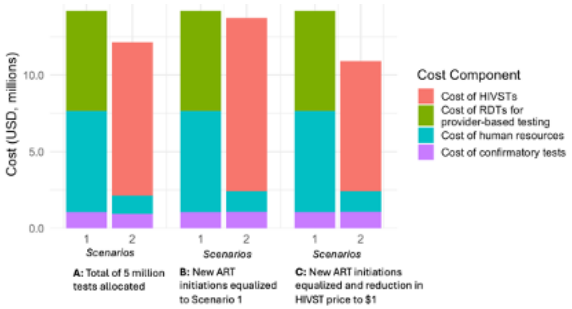


Figure. Total cost, by component, of HIVST vs provider-testing scenarios.

Results: ART initiations totalled 113,925 and 100,731 across scenarios 1 and 2 respectively. Total costs were $14.2M, and $12.1M (−15%). Total staff-time required for testing fell by 85% in Scenario 2 vs. Scenario 1.

To match Scenario 1's ART initiations, Scenario 2 would require 655,000 additional HIVST kits to achieve a similar testing yield due to linkage to care reductions associated with HIVST. Even with compensatory HIVST scale-up, total costs remained lower (-3.0%), as did total staff-time (-80%). If HIVST unit cost dropped to $1, to match the same ART initiations as Scenario 1, Scenario 2 would cost $10.9M (−23%).

Conclusions: HIVST for initial screening in facility-based HIV testing substantially reduces cost and staff burden—especially critical in the face of global funding cuts and health workforce shortages.

With sustained testing yield and cost reductions, HIVST offers a flexible option to maintain timely diagnosis and treatment while easing both financial and operational pressures.

LB43

Global ripple effects: the ramifications of ending PEPFAR and USAID on HIV equity, sustainability, and surveillance

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Background: Since its launch in 2003, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has saved over 25 million lives and catalyzed the most expansive global response to HIV/AIDS. Yet in March 2024, Congress passed a short-term omnibus funding bill that reauthorized PEPFAR only through March 25, 2025. This instability threatens to reverse two decades of progress and disrupt a global network of HIV service delivery, data infrastructure, and local capacity that includes USAID's pivotal role.

This abstract explores how the collapse or curtailment of PEPFAR and USAID support would dismantle equitable service delivery, economic stability, and scientific progress globally.

Methods: We conducted a multi-level review of public reports, surveillance data, and published analyses to assess the programmatic, socio-economic, and structural implications of ending PEPFAR and USAID. We examined PEPFAR's 2022 Five-Year Strategy and analyzed data on workforce training, HIV incidence, and economic spillovers to quantify potential setbacks. Key U.S. and international sources were reviewed to triangulate program scale and projected losses.

Results:

- In FY2023, PEPFAR supported 327,000 community health workers globally—many of whom are at risk of job loss due to budget uncertainty.
- The $40 million LIFT UP investment for key populations in 2023, alongside a planned $14 million for 2024–2025, may be jeopardized, undermining HIV prevention and treatment access.
- Discontinuation of USAID's Global Health Supply Chain Program would directly impair access to diagnostics, antiretrovirals, and test kits across low- and middle-income countries.
- Economic modeling by KFF (2022) shows that PEPFAR participation led to a 2.1 percentage point increase in GDP growth per capita and reductions in out-of-school rates—benefits that could be reversed.

- Surveillance infrastructure and public-private partnerships facilitated by PEPFAR risk collapse, stalling the achievement of global targets such as 95-95-95 and limiting the ability to monitor emergent threats.

Conclusions: The non-renewal or further politicization of PEPFAR and USAID would severely compromise global HIV progress—particularly among women, youth, and key populations—and unravel long-standing gains in public health capacity, equity, and science. Beyond clinical impact, the loss of these programs would reduce employment, education, and economic resilience across entire regions.

LB44

Real-time implementation of HIV viral load dashboards in rural Nigeria: a quality improvement pilot across three facilities in Delta state

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Background: Persistent gaps between viral load (VL) data availability and clinical decision-making in rural Nigeria impede progress toward achieving UNAIDS 95-95-95 targets. Despite the existence of digital repositories like the National Data Repository (NDR), frontline use of real-time VL information remains limited. This project piloted a dashboard intervention to enhance VL data utilization and quality improvement (QI) in three rural ART clinics in Delta State, Nigeria.

Description: Between January and March 2025, customized, facility-level VL dashboards were deployed in GH Obiaruku, Brema Specialist Hospital, and GH Ashaka using NDR-derived data. Clinical teams were trained to use dashboards for client prioritization and tracking. Bi-weekly onsite mentorship sessions were conducted to support QI cycle development focused on managing viremic clients and optimizing suppression outcomes. Monthly reviews of suppression trends and facility-level action plans were integrated into routine care processes.

Lessons learned: Across the three facilities, 1,486 people living with HIV (PLHIV) were on ART, with 448 viral load results available.

- Baseline suppression rates were 78.6% (GH Obiaruku), 86.6% (Brema Specialist Hospital), and 99% (GH Ashaka).
- Among 10 clients with VL >1000 copies/ml, 80% received enhanced adherence counseling, and 60% underwent repeat VL testing.
- Facility QI teams initiated active case conferencing and prioritized high VL client management, supported by real-time dashboard insights.
- Clinical teams reported improved workflow efficiency, rapid decision-making, and stronger client monitoring.

Conclusions/Next steps: Implementing real-time VL dashboards combined with structured mentorship and QI cycles was feasible and highly acceptable in rural Nigerian ART settings. Early outcomes suggest meaningful shifts in clinical prioritization, client follow-up, and maintenance of high suppression rates. Scaling up this dashboard-driven approach across similar under-served settings could significantly accelerate achievement of national and global HIV viral suppression targets.

LB45

Resilient HIV response in Peru: advancing person-centered care through national ART decentralization post-COVID-19

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Background: Since 2004, Peru's Ministry of Health has provided free antiretroviral treatment (ART) to people living with HIV (PLHIV), mainly through hospital-based services. However, the COVID-19 pandemic exposed critical gaps in centralized care, particularly for rural and underserved populations. In response, Peru accelerated the decentralization of ART to primary health care (PHC) facilities, bringing services closer to where people live.

Description: In 2020, a national policy was launched to decentralize ART delivery through a person-centered approach, prioritizing:

- Selection of PHC sites based on HIV burden and access barriers.
- Advocacy with regional and local health authorities to secure alignment and commitment.
- Capacity building for health workers through blended learning, mentorship, and in-service training.
- Technical support for reorganizing service delivery and patient pathways.
- Integration of domestic and international resources (e.g., Global Fund) for sustainable financing.
- Strengthening ART logistics (with TLD regimens), scaling up molecular viral load testing (GeneXpert), and implementing an electronic health record system (SIHCE-VIH).

A comparative analysis of ART coverage from 2019 (pre-COVID-19) to 2024 is presented in the following table.

	2019	2024	Increase
ART-providing centers	163	368	205 (126%)
Primary health care level	49 (30.1%)	225 (61.1%)	176 (359%)
Secondary health care level	82 (50.3%)	103 (28.0%)	21 (25%)
Tertiary health care level	32 (19.6%)	40 (10.9%)	8 (25%)
PLHIV on ART	67,214	100,061	32,847 (49%)
Primary health care level	10,585 (15.8%)	28,948 (28.9%)	18,363(173%)
Secondary health care level	13,873 (20.6%)	26,646 (26.6%)	12,773 (92%)
Tertiary health care level	42,756 (63.6%)	44,467 (44.5%)	1,711 (4%)
Provinces with at least one ART health care center	57/196 (29.1%)	130/196 (66.3%)	73 (128%)

Lessons learned: • A strong regulatory framework enabled the scale-up of decentralized services.

- Regional leadership engagement was key to sustainability.
- Trained, sensitized local teams provided accessible, stigma-free HIV care.
- Leveraging international cooperation complemented public funding.
- Simplified regimens and point-of-care diagnostics facilitated rapid service expansion.

Conclusions/Next steps: ART decentralization strengthened Peru's HIV response by improving access, equity, and continuity of care. Between 2019 and 2024, the number of ART-providing PHC centers increased by 359% (from 49 to 225), with nearly one-third of PLHIV now receiving treatment at PHC facilities. This approach enhanced health system resilience, ensuring that PLHIV remained at the center of the response during and after the COVID-19 pandemic.

LB46

Expanding pre-exposure prophylaxis (PrEP) access and continuity through differentiated service delivery models for key populations (KP) in Vietnam

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Background: Asia-Pacific has the second-largest HIV epidemic, with 300,000 new HIV cases in 2023, 79% among key populations (KPs) and their partners. The region saw a slower decline in new infections from 2010-2023 (13% versus 39% globally), highlighting the need for improved access to HIV prevention and PrEP. To enhance PrEP access and continuity in Vietnam, USAID/PATH STEPS and Healthy Markets introduced and scaled differentiated delivery models. These efforts included innovative demand generation campaigns, reaching rural, urban, and industrial zone KPs across five provinces to raise awareness and stimulate demand.

Description: Since 2017, the STEPS and Healthy Markets projects, in collaboration and private-sector and community partners, introduced seven differentiated PrEP delivery models. These included „PrEP on Wheels" for industrial workers, PrEP at Commune Health Stations for rural communities, and PrEP as part of integrated HIV, STI, and mental health services at KP-led One-Stop-Shop (OSS) clinics. They also launched TelePrEP for remote consultations. In addition, the projects implemented online and offline HIV education and counseling campaigns to increase HIV testing and PrEP uptake. These included digital outreach through platforms like Facebook and HeeSay (formerly Blued), and workplace campaigns in factories. KP-led clinics provided client-centered care, improving continuation rates.

Lessons learned: Between January 2017 and January 2025, the project enrolled 23,223 new PrEP users (PrEP_NEW), representing nearly 30% of new PrEP clients nationwide, and served 33,182 individuals under PrEP_CURR, accounting for 45% of the national total. Three-month PrEP continuity at OSS and KP-led clinics exceeded 85%. Mobile and digital models improved reach among previously underserved groups. Offering integrated PrEP services at KP-led clinics enabled more convenient service access in a stigma-free environment, facilitating uptake and continuity. Providing remote consultations through TelePrEP also enabled continuity.

Conclusions/Next steps: Differentiated PrEP models adapted to the needs of KPs were critical for increasing uptake of and continuation in PrEP in Vietnam. These models successfully contributed to Vietnam's PrEP scale-up efforts, leading to the adoption of certain models, such as TelePrEP, in national PrEP guidelines.

LB47

Impact of US-funding suspensions on HIV response in the Latin America and Caribbean region

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Background: The Latin America & Caribbean region (LAC) has historically had a concentrated and controlled HIV epidemic, leading to a lower prioritization of the region in global HIV response and funding. Only 9 countries had explicit HIV pre-exposure prophylaxis (PrEP) policies as of 2024. Subsequently, the region has observed a recent increase in HIV incidence.

Nonetheless, the majority of national HIV programs rely on donor funding to some extent, and PrEP was only available through foreign-funded programs in several countries.

Methods: We distributed an online survey, from February 18–March 14, 2025, available in English, Spanish, French, and Haitian Creole, to HIV service organizations in the LAC region. 40 organizations from 13 countries provided data for this analysis.

Results: 56% of respondents reported receipt of US funding in the last year; of those, 87% had funds suspended. The median annual affected budget was USD $140,000 (IQR: $87,500-$343,727), representing a median 46% of the organizations' annual budgets (IQR: 25–85), reaching 100% in some cases. The programs most frequently affected by the funding freeze were sexual prevention programs, HIV testing services, psychosocial support, social services, gender-based violence prevention and clinical care, and HIV PrEP (in countries that offered PrEP). Affected programs served a median of 193 adults (IQR: 69–400) and 0 children (IQR: 0–10) living with HIV per organization, totaling 16,179 adults and 1,270 children.

Additionally, they served a median of 2,500 adults (IQR: 150–5,203) and 5 children (IQR: 0–50) without HIV or with unknown HIV status per organization, totaling 117,513

adults and 21,202 children. In total, 156,164 beneficiaries were estimated to lose access to HIV services provided by these organizations alone as a result of the funding freezes.

Conclusions: Suspensions of US foreign aid have led to drastic pauses and terminations of critical HIV prevention and care programs, though our survey likely underestimates the scale of the impact. While the LAC region may have higher autonomy from foreign support and less reliance on US funding than other regions, progress on HIV prevention and control in the region is threatened.

LB48

"You get the injection and it's done": qualitative findings from the first real-world implementation of long-acting cabotegravir for HIV prevention among adolescent girls and young women in Zambia

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Background: Adolescent girls and young women (AGYW) in Zambia remain at heightened risk for HIV despite the availability of oral pre-exposure prophylaxis (PrEP). New PrEP formulations such as injectable cabotegravir (CAB-LA) offer a discrete, long-acting alternative for HIV prevention.

We explored the first real-world implementation of CAB-LA among AGYW within a community-based model (Determined, Resilient, Empowered AIDS-Free, Mentored, and Safe [DREAMS] program) in Zambia.

Methods: We conducted qualitative interviews longitudinally (December 2024 and March 2025) with 17 AGYW ages 16-24 recruited from two DREAMS centers. We purposively sampled participants who had initiated CAB-LA within 4 weeks of our first interview. Interview guides, informed by the Andersen Healthcare Utilization Model and the Practical Robust Implementation and Sustainability Model, focused on how participants learned about CAB-LA, their decision to use it, and their early user experience.

Data were transcribed, translated, and brought into Atlas.ti for thematic analysis using deductive and inductive coding.

Results: At the second interview, all participants (100%) had completed their second dose on schedule, consistent with 97% adherence among the 180 AGYW initiated on CAB-LA at the two DREAMS centers. Key themes facilitating CAB-LA uptake and continuation included:

1. Partners can't be trusted – most participants described concerns with partner's infidelity or limited power in sexual decision-making as motivation for PrEP use;
2. Trusted providers counter community misinformation – participants' trust of DREAMS staff and nurses helped overcome myths and misinformation about CAB-LA in the community;
3. Discretion, selective disclosure, and PrEP stigma – PrEP is stigmatized as for ‚prostitutes,' participants appreciated they could be discrete in use with partners and community;
4. Programmatic and social support enables uptake and continuation – friends and fellow beneficiaries of DREAMS with community outreach support uptake and continuation;
5. Freedom – Participants associated CAB-LA with ‚freedom" as they could forget about it. Most reported limited side effects.

Conclusions: This study explored the first implementation of CAB-LA in a real-world setting for AGYW within DREAMS in Zambia. We found that introducing CAB-LA into a trusted HIV prevention program facilitated uptake and adherence to CAB-LA among AGYW, who appreciate that it is long-acting, discreet, and carries few side effects.

LB49

Self-care from anywhere: usability of an AI-Driven HIV testing and care toolkit for AGYW and clinicians in South Africa

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Background: Stigma, limited provider capacity, and barriers to effective HIV self-testing hinder progress in HIV prevention among adolescent girls and young women (AGYW) in South Africa. To address these gaps, the Self-Care from Anywhere project evaluated the usability of an AI-powered toolkit that includes a WhatsApp-based AI companion and a Clinical Portal. This AI companion engages with AGYWs on HIV prevention, relationships, and sexual health topics, while clinicians monitor the interactions through a Clinical Portal to enhance the accessibility, usability, and delivery of HIV care

Methods: This exploratory study took place in Gauteng Province (November 2024 to February 2025). We enrolled 90 AGYW to engage with the AI Companion; 40 out of the 90 were randomly assigned to complete a simulated HIV self-test and receive AI-delivered counselling. All participants interacted with the AI companion and completed a post-survey, including the System Usability Scale (SUS). Clinical Portal usability testing has occurred with 39 clinicians thus far. The study captured clinical portal users' first impressions without formal training. Using descriptive statistics, we assessed usability, user experience, and service-seeking intentions.

Results: Of the 90 AGYW enrolled, 81.1% had completed high school and 91.1% were unemployed. Most (90%) self-reported an HIV-negative status, with 29% of these

currently on PrEP, and 68% reported sexual activity in the past 12 months. AGYWs rated the AI Companion as having high usability, with a mean SUS score of 88.1 (SD 12.3). Most (92%) felt confident using it, though 13% indicated they may need initial assistance.

Over 90% agreed that seeking HIV treatment was important and self-reported seeking HIV care if needed. Data collection for the Clinical Portal is still underway.

Overall to date, 76% of clinicians reported that using the portal would save time, allowing them to dedicate more time to supporting clients

Conclusions: The AI Companion and Clinical Portal demonstrated high usability and acceptability among adolescent girls and young women (AGYW) and healthcare providers. The Clinical Portal was viewed by clinicians as an effective and time-saving tool for supporting clinical decision-making.

Findings highlight the potential for AI-powered platforms to enhance HIV prevention efforts by improving accessibility, client engagement, and service delivery.

LB50

Optimizing PrEP delivery: preferences of female sex workers in South Africa to enhance uptake and sustainability — a discrete choice experiment

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Background: The limited rollout of long-acting injectable pre-exposure prophylaxis (LAI-PrEP) in South Africa represents an opportunity to define preferences among populations at high risk of HIV prior to real-world implementation and scale-up. In response, we evaluated PrEP modality and service delivery preferences among female sex workers (FSW) in South Africa.

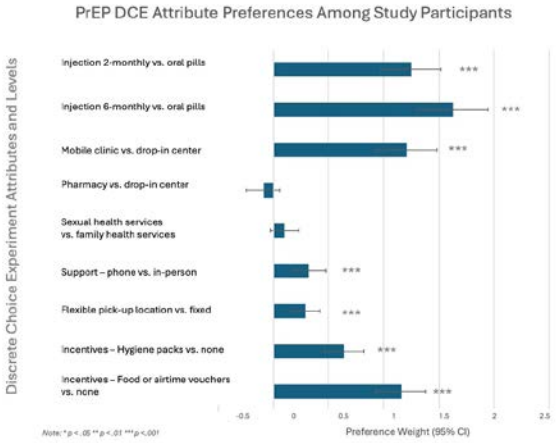
Methods: A discrete choice experiment (DCE) was conducted with 400 FSW accessing community-based HIV prevention services in eThekwini (urban) and Ehlanzeni (rural) Districts between September 2024-March 2025.

We examined preferences across PrEP service delivery features: modality (daily pill, 2-monthly injection, 6-monthly injection); location (mobile clinic, pharmacy, drop-in center); complementary services (sexual health e.g., contraception or family health services e.g., vaccines), case management mode of communication (in-person or phone-based), service versatility (fixed or flexible locations), and incentives (food or airtime vouchers, hygiene packs, none). We used mixed logit models to quantify population-level preferences and assess preference heterogeneity.

Results: FSW (median age: 26, IQR [23,32]) exhibited the strongest preference for receiving 6-month injections (β=1.63; p<0.001), with high heterogeneity (SD=2.08, p<0.001), but strongly preferred 2-month injection over oral PrEP (β=1.24; p<0.001), and mobile-clinics as the preferred way to access PrEP over drop-in centers (β=1.21; p<0.001).

FSW indicated significant preferences for phone-based support (β=0.32, p<0.001), flexible service locations (β=0.29, p<0.001), and receiving incentives of vouchers (β=1.16, p<0.001) and hygiene packs (β=0.64, p<0.001).

FSW preferences varied by location: while study participants in eThekwini (urban) strongly preferred 6-monthly injections (β=1.53, p<0.001), those in Ehlanzeni (rural) showed an even stronger preference (β=2.21, p<0.001).



Conclusions: FSW exhibited strong preferences for LAI-PrEP, mobile service delivery, and vouchers, highlighting opportunities to tailor PrEP service delivery to support uptake and sustained use of biomedical HIV prevention commodities.

Optimizing the impact of LAI-PrEP will require delivery strategies that are attuned to FSW preferences, including the decentralization of injectable PrEP options through mobile-based delivery.

LB51

Health system reliance and disruption: lessons from Mozambique's experience with the U.S. aid freeze

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Background: In January 2025, an executive order was issued suspending almost all the U.S. foreign aid programmes for 90 days. We aimed to describe the context, the immediate response and the short-term impact of this order on Mozambique's HIV service provision.

Description: Mozambique, the country with the third highest population of people living with HIV in the world, relies heavily on the U.S. fund which, in 2022, covered 93% of the country's expenses for HIV service delivery, mainly through PEPFAR. Due to this reliance, the country's Ministry of Health has entrusted critical logistic and operational activities for the continuity of HIV service delivery to implementing partners funded by PEPFAR.

Therefore, the "stop-work order", with no prior notice and unclear guidance for PEPFAR programs and personnel, made it difficult for the Ministry of Health to continue managing the required logistic and operational activities for the continuity of service delivery. This disrupted the service provision chain, including the inability to deliver prevention and treatment services and commodities to its clients.

Lessons learned: National level programmatic data showed marked declines in key HIV service indicators in February 2025 for male and female clients from all age groups, compared to the same month of the previous year. In general, there was a decline in peer-led outreach interventions enrolees from 13,834 in February 2024 to 9,910 in February 2025 (40% reduction), in antiretroviral therapy initiations from 25,379 to 19,002 (34%) and re-initiations from 15,259 to 10,033 (52%), and in tuberculosis screening coverage from 555,251 to 478,247 (16%).

Among those on treatment, there was a decrease of 37,010 (38%) of viral load tests performed, 27,656 (37%) of test results received, and 22,043 (33%) of viral suppression. These viral load cascade indicators were worse in children (<15years), 44%, 71% and 43%, respectively, showing a disproportionate impact on paediatric population.

Conclusions/Next steps: The findings highlighted the critical role of U.S. funding in sustaining the HIV prevention and treatment services in Mozambique and exposed the country's system fragility.

This episode underscores the urgency of building health systems that are both financially and operationally sustainable in the face of unpredictable donor landscapes.

Late-breaker e-posters

EPLB001

Improving viral suppression among children living with HIV during year 2023 through age-appropriate doses of anti-retroviral therapy (ART): An experience from Mumbai, India

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Background: In Mumbai, a metropolitan city in India, during June 2022, overall viral load (VL) suppression among People living with HIV (PLHIV) was 98% as per quarterly report, however it was 92% in children (<15 years) living with HIV **(**CLHIV). Low suppression rate may be attributed to non-escalation of the drug dosages as per age and weight bands in addition to other factors such as poor adherence, high pill burden and poor palatability in children.
The U.S. President's Emergency Plan for AIDS Relief (PEPFAR)-supported project Sashakt provided technical assistance to Mumbai District AIDS Control Society (MDACS) to administer age-appropriate doses for CLHIV to improve retention and viral suppression.
Description: In February 2023, 1,420 CLHIV records were reviewed for the current age, weight, anti-retroviral therapy (ART) doses and VL. ART Dosages were compared to recommended standardized weight-band guidelines, and 20% (282/1420) cases of sub-optimum dosages were identified. The team supported the drug dose adjustment as per current weight and clinical monitoring of these CLHIV for subsequent six months. The baseline VL data was analyzed to correlate viral suppression with dosage accuracy. The VL suppression among CLHIV with correct dosage was 93% (970/1042), while it was 87% among those with sub-optimum doses (chi square p<0.001).
The subsequent VL testing was done in October 2023 after dose adjustment as per current weight for all children with sub-optimum doses. The viral suppression rate increased from 87% to 91% in October 2023 (chi square p<0.001) in this group of CLHIV.
Lessons learned: Significant numbers of CLHIV were receiving sub-optimal dosages of ART that may resulted in lowered viral suppression. Regular monitoring of age, weight, and ART doses may have helped to improve the viral load suppression among CLHIV.
Conclusions/Next steps: To sustain and enhance treatment efficacy, regular monitoring and timely corrective actions for ensuring age-appropriate ART doses may be considered to facilitate appropriate ART dosage and viral suppression among CLHIV.

EPLB002

Improving treatment continuity and viral suppression during the year 2023 among people living with HIV (PLHIV) re-engaged in care in Mumbai, India

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Background: Interruptions in treatment (IIT) challenge HIV care, elevating morbidity and mortality among people living with HIV (PLHIV). Program data (2021-2022) from Mumbai revealed that 35% of PLHIV who returned to care after treatment interruption (re-engaged in care) were documented to have another IIT in the subsequent quarter. Viral load (VL) uptake and suppression were also sub-optimal among re-engaged PLHIV (62% and 85%, respectively).
Recognizing the need for tailored care among re-engaged PLHIV, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) supported Project Sashakt provided technical assistance to enhance treatment continuity and VL suppression by providing person centric services.
Description: From February 2023, the project provided technical support to all 20 Antiretroviral Treatment Centers (ARTCs) in Mumbai for person-centric management and follow-up of PLHIV re-engaged in care. The client records like address and phone numbers were updated, accompanied referrals provided for clinical consultation and psychosocial support as needed.
The reason-based person centric plans-decentralized pill pick up from community or sub district facility-based centers, flexi pill pick-up timing, tele consultations and person centric counselling were co-created by counsellors in consultation with PLHIV to reduce IIT
Lessons learned: Between February 2023 and December 2023, 1,871 PLHIV (32% female; 83% [1,551/1,871] above 30 years of age) were re-engaged in care at the 20 ARTCs. Among these six-month retention rate as of June 2024 was 80% (1,490/1,871), higher than 69% observed among re-engaged PLHIV in Mumbai during 2021-2022 (p<0.001). Of 1031 who re-engaged and had VL testing, the viral suppression rate (VL <1000 copies/ml) increased to 89% (918/1,031) from 85% in 2021-2022 (chi square p<0.006).
These findings highlight the potential effectiveness of proactive and close follow-up and person-centric services in reducing IIT and enhancing VL suppression among PLHIV re-engaged in care.
Conclusions/Next steps: Applying an individualized case management model of care among re-engaged PLHIV may contribute to improved treatment continuity and VL suppression.

EPLB003

Effect of Digital Adherence Tools (DAT) on adherence to antiretroviral treatment and viral load suppression among children living with HIV in Tanzania.

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Background: Interventions that assist with antiretroviral treatment (ART) adherence are highly needed to help children living with HIV (CLHIV) achieve viral suppression and avoid HIV drug resistance. We investigated the effect of a Digital Adherence Tool (DAT) on improving adherence to ART among CLHIV in Tanzania.
Methods: We conducted a pragmatic trial in which CLHIV were randomized to either the intervention (DAT) or control arm. Children in the intervention arm received daily reminder SMS, used the Wisepill device that monitored their medication intakes by recording each opening as intake, and received adherence feedback based on the device-generated report. We followed them for twelve months, in an interval of 2-3 months' visits.
We collected self-reported and pharmacy refill adherence at each visit and viral load at baseline and study completion. We categorized viral suppression as viral load above or below 50 copies/mL. We performed a chi-square test to compare the proportion of CLHIV achieving 95% adherence and viral suppression between the two arms.
To estimate the adjusted risk ratio of viral suppression and to account for repeated adherence measurements within individuals over time, we conducted a quasi-Poisson model with robust standard errors analysis.
Results: We randomized 154 children: 78 in the intervention and 76 in the control arm. The proportion achieving 95% adherence was 62(84%) vs 64(90%) (P-value = 0.26) based on self-reported adherence and 54(70%) vs 50(68%) (P-value= 0.73) by pharmacy refill methods. Sixty-three (86%) children in the intervention achieved viral suppression, compared to 51(73%) in the control arm: RR of 1.18 (95% CI: 1 - 1.40, p = 0.046).
The adjusted analysis showed no significant difference in adherence between the arms. However, children with suppressed baseline viral loads had 2.36 times higher chance of being suppressed at the endline than those unsuppressed at baseline (IRR=2.36; 95% CI: 1.73-3.31).
Conclusions: This trial showed a weak effect of DAT in improving viral suppression (secondary objective) but didn't show an effect on adherence (primary outcome). This could be due to a nondifferential misclassification error in measuring adherence in both arms. We recommend a trial powered on viral load to measure viral suppression as the main outcome.

EPLB004

A cluster randomized trial of visitect CD4 advanced disease platform among outpatients with advanced HIV disease in Uganda

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Background: Despite significant progress in HIV care globally, a persistent 30 to 40% of people present with advanced HIV disease (CD4 cell count ≤200 cells/μL). Visitect CD4 Advanced Disease platform is a point-of-care CD4 test that is being implemented in resource-limited settings. We sought to assess clinical outcomes of survival and retention-in-care among people with advanced HIV disease who received Visitect CD4 testing compared with standard CD4 testing.
Methods: We performed a 2x2 factorial cluster randomized clinical trial among people with advanced HIV disease to evaluate the Visitect CD4 Advanced Disease platform compared with onsite standard laboratory-based CD4 testing. The trial was conducted at 16 outpatient HIV clinics. We sought to assess survival and retention-in-care among people with advanced HIV disease who received Visitect CD4 testing compared with standard CD4 testing. Randomization by CD4 methodology was stopped on June 18, 2024 and the results of the CD4 factorial are presented here.

	Visitect CD4 platform	Standard-of-care CD4 testing	P-value
Enrolled	927	797	
Confirmatory CD4 ≤200 cells/mcL	588	797	
Follow up completed	553	763	
Death or Lost to follow-up[1]	40 (7.2%)	56 (7.3%)	0.94
Death	22	30	
Lost to follow-up	18	26	
Hazard ratio (95% CI)[2] Comparing Visitect to Standard-of-care	0.99 (0.66, 1.49)		0.96

[1]Chi-squared test, without adjusting for clustering
[2]Cox mixed-effects model to account for clustering

Table 1. Summary of primary events by CD4 groups.

Results: Between May 5, 2022 and February 18, 2025, 1724 participants were enrolled, of whom 927 participants were assigned to Visitect CD4 testing (8 clusters) and 797 were assigned to standard CD4 testing (8 clusters). The median age was 34 years, 52% were female and 56% were ART-naive at enrollment. The median CD4 cell count was 110 cells/

µL. The median time to receipt of CD4 results was zero days in both arms. Among participants with confirmatory CD4 ≤200 cells/mcL, death or loss to follow-up occurred in 40 (7.2%) participants assigned to Visitect CD4 testing, and 56 (7.3%) participants assigned to standard CD4 testing (Hazard ratio, 0.99; 95%CI, 0.66 to 1.49, Table 1).
Conclusions: Implementation of the Visitect CD4 Advanced Disease platform demonstrated equivalent, but no additional, benefit to 24-week survival and retention-in-care compared with other point-of-care CD4 strategies.

EPLB005

Indirect treatment comparison of the efficacy of cabotegravir and lenacapavir for HIV pre-exposure prophylaxis (PrEP) versus no PrEP

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Background: Cabotegravir (CAB) is the first long-acting injectable (LAI) approved for pre-exposure prophylaxis (PrEP) to reduce the risk of sexually acquired HIV, based on the HPTN 083 and 084 trials. Recently, the PURPOSE 1 and 2 trials demonstrated that lenacapavir (LEN), an investigational LAI PrEP option, is efficacious across diverse populations. In the absence of a head-to-head trial, an indirect treatment comparison (ITC) was conducted to assess efficacy of CAB and LEN to provide insight into their relative clinical value.
Methods: A systematic literature review was conducted to identify all relevant trials for this comparison. Efficacy inputs for this ITC were from published efficacy data from the PURPOSE trials (Bekker et al. *NEJM*. 2024;391:1179-1192; Kelley et al. *NEJM*. 2025;392:1261-1276) and derived from published HPTN trial data. CAB and LEN were compared using No PrEP as a common comparator, sourced from the background HIV incidence arm of the PURPOSE trials and the No PrEP arm leveraging previous ITC methodology comparing CAB with No PrEP (Hawkins et al. ISPOR 2024; Atlanta, GA. Poster CO156).
Results: The predicted efficacy of CAB vs No PrEP in reducing HIV acquisition risk was high across men who have sex with men (MSM) and transgender women (TGW; 96% [95% CI: 89.78-98.37]) and cisgender women (CGW; 98% [88.95-99.79]), which was comparable to that observed in the PURPOSE trials (men/gender-diverse people, 96% [82.05-99.00]; CGW, 100% [95.91-100.00]). The hazard ratio of LEN compared with CAB was estimated to be 1.04 (0.19-5.69) in MSM and TGW and 0.00 (0.00-3.21) in CGW.
Conclusions: CAB and LEN both offer high and similar efficacy in reducing HIV acquisition risk compared with No PrEP and this was generally consistent when using oral PrEP as a common comparator with adjustment for differences in adherence (data not shown here). Additional factors associated with these regimens, including the potential for drug-drug interactions and adverse events (eg, injection site reactions), real-world usage, seroconversion resistance, and patient preference, will be important to comprehensively assess clinical value and assist with decision-making.

EPLB006

A latent class analyses of PrEP-related awareness, knowledge, appointment, and prescription among black residents in HIV high impact zip codes in Miami, FL

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Background: Black communities in southern states of the U.S. continue to be disproportionately impacted by HIV compared to other racial/ethnic groups. However, there is diversity within Black communities in terms of demographics, socio-structural experiences, and barriers to care. Latent class analysis is an advanced statistical approach to tease apart what subgroups may benefit from greater efforts in HIV prevention.
Methods: Via a large-scale implementation project focused on PrEP in HIV high impact zip codes in Miami, Florida data was recently collected (e.g., discrimination, medical mistrust, displacement, barriers to care, and PrEP) among 2654 Black residents. Participants were asked about PrEP awareness, knowledge, and PrEP-related care (e.g., referral, speaking to a provider, receiving a prescription). A latent class analysis was conducted in MPlus to determine the best number of classes. PrEP variables were then included in the model as outcome variables.
Results: Six classes were the best fit for the model (AIC = 116266.9, BIC = 118055.6, SSBIC = 117089.7). The classes differentiated based on gender, education, employment, disability status, displacement, trauma, discrimination, substance use, and barriers to care. There was an overall difference across the classes in hearing of PrEP, speaking to a provider about PrEP, PrEP referral, scheduling a PrEP appointment, being prescribed PrEP, and taking PrEP. Class 3 (of Haitian creole-speaking participants, non-US-born, low adversities) had the lowest ratio of participants who had heard of PrEP (significant difference from all other classes $p < .001$).
Interestingly, Class 5 (U.S.-born, high discrimination, high medical mistrust, highest substance use, trauma, highest displacement, highest barriers to care) had the highest ratio of speaking to a provider and PrEP referral, appointment, and prescription and showed significant differences compared to other classes. For instance, participants in Class 5 were taking PrEP at a higher rate than those in Classes 2 (U.S.-born, low on adversities) and 3.
Conclusions: Our findings echo that (a) non-English speaking and foreign-born Black individuals may require strategic efforts to improve PrEP awareness/uptake and

(b) further research is needed to understand the mechanisms by which U.S.-born individuals facing high adversities are learning about and accessing PrEP.

EPLB008

Prevalence and patterns of HIV drug resistance among adults initiating dolutegravir-based first-line ART in Cambodia: A cross-sectional survey

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Background: Cambodia adopted dolutegravir (DTG)-based antiretroviral therapy (ART) as the preferred first-line regimen in 2019, aligning with WHO recommendations to address the growing threat of HIV drug resistance. However, national data on resistance to DTG remain unavailable, underscoring the need for surveillance. This study aimed to determine the prevalence and patterns of pretreatment HIV drug resistance (PDR) among adults initiating DTG-based ART in Cambodia in 2024.
Methods: :A nationally representative cross-sectional survey enrolled 312 ART-naïve adults from 28 clinics across 17 provinces in Cambodia between March and August 2024, using probability proportional to size sampling. Pretreatment HIV drug resistance was assessed before ART initiation.
Results: Among participants, 78.53% identified as male at birth and 5.13% as trans women, with a median age of 30 years (IQR: 25-38). Sexual contact was the primary transmission mode, with 67.95% involving partners of unknown HIV status. PDR tests completed for 96.81% of samples. Overall PDR prevalence was 19.51%, with resistance to nucleoside reverse transcriptase inhibitors (10.18%), non-nucleoside reverse transcriptase inhibitors (3.5%), and protease inhibitors (9.92%).
Notably, no DTG-associated resistance mutations were observed. NRTI resistance mutations (Q151M, T69N/S, T215TS, Y115F) occurred infrequently. NNRTI resistance showed E138A mutation dominance (33.3%), followed by K103N/V106I/V179I (19.1%). PI resistance mutations were highly prevalent, with six mutations appearing in over half the samples—H69K (97%), M36I (92.9%), G16I (88.1%), L89M (78.6%), L10V (66.7%), and K20R (54.8%).
Conclusions: The absence of DTG resistance supports the continued use of DTG-based regimens as first-line therapy. However, significant resistance to other drug classes highlights the necessity for routine genotypic testing prior to ART initiation and ongoing nationwide surveillance. Enhanced prevention strategies, particularly targeting sexual transmission from partners of unknown HIV status, and expanded access to resistance testing are critical for sustaining ART efficacy and optimizing Cambodia's HIV treatment guidelines amidst evolving resistance patterns.

EPLB009

HIV incidence and risk factors among MSM using PrEP in a real-world HIV-PrEP program in Hanoi, Vietnam

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Background: In 2019, Vietnam expanded its national pre-exposure prophylaxis (PrEP) program geographically to address increasing HIV transmission among men who have sex with men (MSM). To evaluate program outcomes and identify gaps, we estimated HIV incidence and risk factors among MSM using PrEP at the Sexual Health Promotion (SHP) clinic – the largest PrEP provider in Hanoi.
Methods: We analyzed clinical data from clients who initiated PrEP at SHP from May 2019 to December 2024. Eligible clients were males reporting sex with men and had at least one HIV test after PrEP initiation. Self-reported adherence, syphilis screening at any time point, and regimen-switching between daily and event-driven (ED) PrEP were recorded. Discontinuation was defined as missing a scheduled visit by at least 30 days. Incident HIV cases were defined as seroconversions following a prior non-reactive test. HIV incidence was estimated using the person-time method, with follow-up from PrEP initiation to the last clinic visits or, for those who seroconverted, the first HIV-reactive result. Risk factors were assessed using Cox proportional hazards regression.
Results: A total of 4,343 eligible clients (median age: 24 years; IQR:21–28), contributed 6497.7 person-years (PYs) of follow up. Overall, 1,416 (32.6%) switched regimens: 738 from daily to ED, 146 from ED to daily; and 532 bidirectionally; 3441 (79.2%) reported good adherence; and 3,396 (78.2%) had at least one syphilis screening. Seventy clients seroconverted, yielding an HIV incidence rate of 1.08/100PY (95% CI:0.85–1.36). Higher HIV risk was associated with age < 25 years (adjusted hazard ratio [aHR] 2.63; 95%CI:1.57–4.42); being PrEP-naïve (i.e., having never used PrEP previously) (aHR=2.68; 95% CI:1.49–4.80); remaining on a single daily PrEP regimen (aHR=3.26; 95% CI:1.69–6.28); having ≥2 PrEP discontinuations (aHR=2.35; 95% CI:1.26–4.38); and no syphilis screening (aHR=3.33; 95% CI:1.98-5.59).
Conclusions: This study highlights the HIV incidence and associated risk factors among MSM using PrEP in Hanoi. Individuals who were younger and PrEP-naïve, remained on a single regimen, interrupted PrEP at any point, and had no syphilis screening were at higher HIV risk. Targeted interventions for young, naïve PrEP users could improve PrEP retention and syphilis screening, further reducing HIV incidence among MSM.

EPLB011

Prevalence of HIV and the care and treatment cascade among pwids in 5 cities of Mozambique (Maputo, Beira, Tete, Quelimane, and Nampula)

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Background: Mozambique is one of the countries with the highest HIV rates in the world. At a global level, People Who Inject Drugs (PWID) have up to 33 times greater chance of becoming infected with HIV, when compared to the general population, and in the Mozambican context, the prevalence among them is more than double when compared to the general population. Despite this reality, little has been published about the risk factors behind these numbers. This study presents results on the weight of HIV and the way care is provided among PWID in the country.

Methods: This survey was carried out using the referral chain sampling (RDS) methodology. Pre-implementation formative assessment was carried out. Recruitment took place from June 2023 to February 2024. Data was collected through a structured questionnaire and rapid testing for HIV, Hepatitis B and C. The cascade of care and treatments for PLHIV was also calculated. All analyzes were weighted to accommodate the design.



Figure. Recruitment flow (June 2023 to February 2024).

Results: The prevalence of HIV among PWIDs was estimated at 29.9% in the city of Maputo, 18.0% in Beira, 13.8% in the city of Tete, 20.8% in Quelimane and 13.3% in Nampula. The cascade results are as follows:



Figure. Care and treatment cascade 95-95-95.

Conclusions: HIV infection rates in PWID are worrying. Evidence shows that there is a long way to reach global goals and to achieve them it is necessary, among others, to encourage community awareness programs to reduce discrimination against PWID and Strengthen ART adherence programs, increasing access and coverage of services for STIs, ensuring that PWID receive adequate treatment.

EPLB012

The impact of the USG funding freeze on PrEP implementation and continuity in Nigeria

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Background: Nigeria is at a pivotal juncture in HIV prevention, advancing the roll-out of long-acting injectable cabotegravir (CAB-LA) pre-exposure prophylaxis (PrEP) while expanding oral PrEP nationwide—largely with U.S. Government (USG) support. However, the USG funding freeze in January 2025 disrupted these efforts, impacting PrEP programs and recipients of services. This analysis evaluates the funding freeze's impact on CAB-LA roll-out, oral PrEP service provision, and national PrEP data reporting infrastructure.

Methods: To understand the impact, we gathered data through stakeholder consultations between January and March 2025, including government officials, representatives of implementing partners, and leaders from key population (KP) groups. We combined these perspectives with programmatic data from January 2024 to March 2025, focusing on client initiation, retention, and site functionality across USG-supported states, to capture the numbers and human stories behind the disruption.

Results: The CAB-LA pilot across the 15 PEPFAR-supported sites faces challenges, with only 7% (160) of the target population initiated before the stop work order, and just 33% (53) of initiators receiving a second dose. Between Q1 2024 and Q1 2025, new oral PrEP initiations among KPs declined by 51% from 41,111 to 20,039 while the total number of clients receiving PrEP dropped from 55,389 to 34,187. The national reporting rate for PrEP indicators on DHIS2.0 plummeted from 95% to 18% due to data flow interruptions. KP-led and community-based models were notably affected. Approximately 95% of previously active KP-focused PrEP sites reported full (86%) or partial (14%) service suspension due to commodity unavailability/inaccessibility or disrupted distribution, human resource, and funding gaps. Qualitative findings show loss of trust among KPs—impeding prior demand generation efforts for PrEP delivery, increased stigma, and elevated HIV risk perception due to inconsistent and disrupted access.

Conclusions: The USG funding freeze disrupted PrEP delivery in Nigeria, setting back progress in HIV prevention and highlighting the fragility of donor-dependent health programs. While the Ministry has proposed an integrated government-led approach in response, mitigating the impact requires coordinated emergency gap-filling to re-establish the program momentum, decentralized procurement pathways, resilient service delivery approaches and data systems.

EPLB013

Improving HIV service delivery for orphans and vulnerable children in Zambia: lessons from a CQI intervention under the ECAP III program

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Background: Zambia's HIV epidemic continues to disproportionately affect children and adolescents, particularly orphans and vulnerable children (OVC), who face significant barriers to disclosure, adherence, and retention in care. The USAID-funded Empowered Children and Adolescents Program III (ECAP III), implemented in Lusaka Province, aims to improve the wellbeing of OVC through comprehensive, family-centered services. Midway through implementation, persistent gaps in case management, supervision, and safeguarding led to the adoption of a Continuous Quality Improvement (CQI) approach to enhance service delivery quality and accountability.
Description: From November 2023 to January 2025, Project HOPE and CIDRZ implemented a CQI framework across four districts—Chilanga, Chongwe, Kafue, and Lusaka—reaching over 77,000 OVC through 214 trained community case workers. The intervention focused on six thematic areas including HIV case management, safeguarding, and infrastructure. District CQI teams were trained on supervision, mentorship, and use of a digitized CQI tool within the DHIS2 platform. Data were collected via mobile applications during joint district-level assessments involving case workers, M&E officers, and government social service representatives.
Lessons learned: CQI implementation led to measurable improvements across all four districts. Chilanga saw case management scores rise from 24% to 67% and M&E from 43% to 63%. Chongwe, despite initial resistance, improved safeguarding from 13% to 60% and staffing from 20% to 53%. Success was greatest in districts with strong leadership engagement and integrated CQI into existing governance structures.
Key lessons include the value of introducing CQI at program inception, the necessity of structured change management to mitigate resistance, and the use of digital tools for real-time data use and accountability.
Conclusions/Next steps: These endline findings, concluded in February 2025, provide timely evidence for scaling CQI within national HIV and child protection programs. CQI should be embedded from the outset of program implementation to build systems for continuous learning, strengthen adherence and viral suppression outcomes among children and adolescents, and promote sustainable, district-led service delivery improvements.

EPLB014

Preferred short course tuberculosis preventive regimens for adults and adolescents living with HIV

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Background: Tuberculosis (TB) is the leading cause of death among people living with HIV (PLHIV). While TB Preventive Therapy (TPT) is recommended, the preferred regimen for PLHIV remains unclear. We conducted a systematic review comparing TPT completion, grade 3&4 adverse events (AEs), TB incidence and HIV viral load suppression (VLS) among HIV-positive adults and adolescents (≥13 years) receiving daily isoniazid- rifapentine for one month (1HP), weekly isoniazid- rifapentine for 3 months (3HP) and 6 months daily isoniazid (6H).
Methods: We searched Pubmed, Embase and the Cochrane register, January 2014 to November 2024, and relevant conference abstracts (2022-2024); randomized control trials (RCTs) and prospective observational studies were included. For TPT completion, toxicity and VLS, single-armed estimates were compared, and meta-analyses were conducted (random-effects models). For TB incidence analysis was limited to comparative studies as data were insufficient for meta-analysis. Evidence certainty was assessed using GRADE.
Results: We screened 2788 studies; 20 studies (13 RCTs) were included. Overall TPT completion (n=12731) was 80%; highest with 1HP (97%, 95% CI 96-98%) and 3HP (92%, 90-94%), versus 6H (72%, 62-82%). Grade 3&4 AEs (n=6906) were highest with 6H (15%), versus 1HP (7%) and 3H (5%), but differences were not significant. Grade 3&4 hepatoxicity was lowest with 3HP (0.4%).
Across 3 RCTs testing either 1HP or 3HP, TB incidence was similar by regimen. VLS (n=830) was similar with 1HP and 3HP combined (93%) versus 6H (92%, one study).
Among 15300 participants, 105 deaths occurred, 3 attributed to 6H, none to 1HP or 3HP. Certainty of evidence was very low (TPT completion) and low (AEs, incidence and VLS).
Conclusions: Rifapentine-containing TPT regimens for PLHIV should continue to be scaled up. As 3HP is associated with high completion and low AEs, it is well-suited for broad implementation across LMIC settings.
While 1HP remains promising, there is an overall need for more high-quality data on relative risks and benefits across different TPT regimens.

EPLB015

Impacts of accompaniment on self-managed abortion among abortion seekers in Cameroon

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Background: Unsafe abortion remains a major contributor to maternal morbidity and mortality globally, particularly in sub-Saharan Africa, where restrictive laws and stigma continue to limit access to safe abortion services. In Cameroon, where abortion is largely restricted, self-managed abortion (SMA) has become increasingly common. However, there is limited evidence on the role of accompaniment in improving the safety and experience of SMA seekers.

This study aimed to explore the psychological, physical, social, and empowerment-related impacts of accompaniment during the SMA process, drawing on the experiences of abortion seekers, service providers, and sex workers.

Methods: This qualitative study used a phenomenological approach to capture lived experiences. In-depth interviews were conducted with 12 abortion seekers and 8 abortion service providers across different regions in Cameroon. Additionally, one focus group discussion (FGD) was held with sex workers to gather community-based perspectives. Participants were selected through purposive sampling, and data were collected using semi-structured guides. Thematic analysis was applied using both deductive and inductive coding, aligned with four research questions focused on psychological, physical, social, and empowerment impacts.

Results: Findings revealed that accompaniment significantly reduced emotional distress and improved psychological well-being among abortion seekers by offering emotional reassurance, accurate information, and empathetic support. Physically, accompaniment helped mitigate complications through symptom monitoring and timely referrals. Socially, accompaniment reduced feelings of isolation and enhanced interpersonal trust, though stigma remained pervasive. In terms of empowerment, accompaniment enabled informed decision-making, autonomy, and confidence in managing the abortion process. However, some service providers also reported emotional fatigue and resource challenges due to limited institutional support.

Conclusions: Accompaniment plays a critical role in improving the safety, dignity, and emotional resilience of abortion seekers, especially in restrictive and stigmatizing environments like Cameroon.

Strengthening training for providers, increasing public awareness, and integrating psychosocial and post-abortion care into SMA support can improve outcomes and reduce unsafe abortion practices.

EPLB016

Social determinants and prevention strategies in the HIV epidemic: NCHHSTP database analysis

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Background: The HIV epidemic remains a significant public health challenge, with social determinants and prevention strategies playing a crucial role in disease outcomes. While advancements in treatment and prevention have led to improvements in viral suppression and healthcare access, disparities in healthcare remain, particularly among vulnerable populations.

This study aims to analyze the role of social determinants in shaping the HIV epidemic and assess the effectiveness of current prevention strategies using data from the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) database. By examining demographic disparities, socioeconomic influences, and healthcare accessibility, the study seeks to identify key factors contributing to HIV transmission and treatment gaps.

Methods: This study utilized data from the NCHHSTP database, a comprehensive repository of surveillance and epidemiological data on infectious diseases in the United States. The study employed a cross-sectional design, analyzing retrospective data from reported HIV cases in the United States spanning from 2018 to 2022. The study population consisted of people diagnosed with HIV, as recorded in the NCHHSTP database. Data collection in the NCHHSTP database was performed through national reporting systems, healthcare facilities, and public health surveillance programs. Descriptive statistics, including frequencies and percentages, were utilized to summarize demographic characteristics and key variables. Bivariate analyses, such as chi-square tests and ANOVA, were conducted to examine associations between social determinants and HIV-related outcomes. A significance level of $p < 0.05$ was set for all statistical tests. Data analysis was performed using statistical software SPSS, ensuring robust analytical methodologies.

Results: The findings indicate a reduction in new HIV transmission and an increase in HIV prevalence, suggesting improvements in diagnosis and treatment. Although AIDS-related and HIV-related deaths spiked during the COVID-19 pandemic, viral suppression rates steadily improved. Healthcare access remained stable, with increased PrEP coverage and linkage to care. However, persistent barriers such as HIV stigma and unstable housing continued to affect health outcomes.
Conclusions: The study highlights significant progress in HIV prevention and care but underscores the need for targeted interventions addressing social determinants. Continued investment in equitable healthcare access, stigma reduction, and housing stability is essential for sustaining HIV epidemic control.

EPLB017

Displaced sexual minority men (SMM) experience more dignity attacks compared to local SMM in Ukraine

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Background: Stigma against sexual minority men (SMM) is a known driver of HIV transmission. In Ukraine, which has one of Europe's largest HIV epidemics, it remains a public health challenge. The 2022 Russian full-scale invasion internally displaced millions, including SMM. This study explores how internal displacement relates to experiences of dignity attacks, which can maintain stigmatization and interpersonal hostility, and perceived reasons for these attacks.
Methods: We analyzed data from an on-going cohort study of SMM in two cities, Kyiv and Lviv, started in November 2024 (N=717 as of April 2025) that included local (n=348, 48.6%) and forcibly displaced SMM (fdSMM, n=368, 51.4%). The "Big Events" scale was administered to assess dignity attacks, measured by asking "How often have people spoken/acted towards you that felt like they were attacking your dignity?"
Bivariate logistic regression was used to assess displacement and dignity attack frequency (frequently, infrequently, never), and analyses were stratified by participants' financial situation.
Results: Overall, 48% (N=341) of participants reported experiencing dignity attacks in the last 6 months, 28% (N=201) frequently and 20% (N=140) infrequently; 36% (N=260) attributed them to their sexual orientation. Compared to local SMM, fdSMM had 1.25 times the odds of experiencing infrequent (95% CI [0.85, 1.85]) and 1.39 times the odds of frequent attacks (95% CI [0.99-1.96]). FdSMM were significantly more likely to report being demeaned for "everything about me" (OR = 1.94, 95% CI [1.22, 3.11]), "my personality" (OR = 1.62, 95% CI [1.10, 2.38]), and "my personal hygiene" (OR = 1.90, 95% CI [1.00, 3.61]. Among those "getting by" financially, fdSMM had 1.59 times higher odds of frequent attacks (95% CI [1.06, 2.41]).
Conclusions: Dignity attacks related to sexual orientation remain common in Ukraine. Being displaced may elevate vulnerability to dignity attacks among SMM, particularly when combined with financial instability. HIV prevention efforts in conflict-affected settings need to consider the intersectionality of SMM stigmatization.

EPLB018

Barriers to HIV, tuberculosis, and malaria service uptake among marginalized women and sexual minorities in Southwest Nigeria: a mixed-methods study

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Background: Despite improvements in Nigeria's health infrastructure, marginalized women including female sex workers, women living with HIV, and sexual minorities such as LBQ women and trans-women remain underserved in HIV, tuberculosis (TB), and malaria responses. Structural inequalities, stigma, and systemic exclusion continue to hinder their access to services.
This study investigated barriers to health service uptake among these populations in Lagos and Ogun States, Southwest Nigeria, to inform inclusive programming and advocacy.
Methods: A convergent mixed-methods design was used. Quantitative data were collected from 308 participants recruited through purposive and snowball sampling across urban and peri-urban areas. Structured surveys assessed awareness, service utilization, and barriers related to HIV prevention (including PrEP), TB diagnosis, and malaria prevention.
Qualitative data were gathered through 24 in-depth interviews (IDIs) and 8 focus group discussions (FGDs) exploring lived experiences with health systems. Additionally, 35 healthcare providers were surveyed on attitudes and perceived competence. Data triangulation was employed to enhance validity.
Results: Overall, 62.7% of participants reported experiencing stigma or discrimination in healthcare settings; 41.2% were misgendered, 36.8% denied care, and 49.5% treated judgmentally. Uptake of PrEP was low at 28.9%, TB screening at 35.7%, and consistent malaria prevention practices at 31.4%. Reported barriers included fear of discrimination (66.2%), lack of culturally competent providers (58.3%), misinformation about services (47.6%), and reliance on informal health networks (53.1%).
Healthcare providers acknowledged significant training gaps and highlighted the need for inclusive guidelines and peer-led interventions.
Conclusions: Marginalized women and sexual minorities in Southwest Nigeria encounter profound barriers to HIV, TB, and malaria service uptake, primarily driven by

stigma, discrimination, and limited provider capacity. Addressing these barriers requires peer-led navigation models, provider sensitization, legal reforms, and the development of inclusive health policies to advance equitable access.

EPLB019

HIV and mental disorders among people who use drugs in Côte d'Ivoire

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Background: Mental health challenges among people who use drugs (PWUD) living with HIV remain largely overlooked in health policies, even though their psychological well-being is weakened by structural factors such as stigma, poverty, drug use trajectories, institutional violence, and incarceration experiences. These challenges also negatively affect their access to HIV prevention, care, and support services.
Methods: To address this gap, a cross-sectional biobehavioral study was conducted in November 2023 among 954 PWUD in Abidjan, Bouaké, and San Pedro. Participants were recruited from seven high drug-use sites ("fumoirs") through exhaustive site-based enumeration. Mental health screening was carried out using the MINI diagnostic tool. Sociodemographic and drug use data were collected through structured face-to-face interviews. Descriptive and inferential statistics were used to identify patterns and associations.
Results: The prevalence of major depressive disorders was alarmingly high: 50% of participants suffered from current recurrent major depressive disorder, and 38% experienced isolated current episodes.
HIV prevalence among PWUD was 2%. Among them, 73% knew their HIV status. Among HIV-positive PWUD, 71.5% experienced current recurrent major depressive disorder and 28.5% had isolated depressive episodes. Among HIV-negative PWUD, 47% had current recurrent major depression, 45% had isolated episodes, and 8% presented with psychotic syndromes.
Depressive disorders were significantly associated with the use of crack (65%), heroin (57%), or psychoactive medications (75%). Economic hardship (50% earned less than 50,000 FCFA per month), being single (95%) or divorced (89%), and a history of incarceration (53%) were also strongly linked to mental health disorders.
Conclusions: These findings highlight the urgent need for integrated care models combining HIV services and mental health support, tailored to the specific realities of precarious PWUD. Community-based, individualized, accessible, and non-stigmatizing services are essential to improve access to care, reduce morbidity, and strengthen the HIV response among this vulnerable population.

EPLB020

"Hidden barriers, silent sufferers": gender, rights, and the reluctance of men to seek tuberculosis care in Thabo Mofutsanyane

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Background: Despite South Africa's progressive TB policy landscape, men in rural areas remain disproportionately underserved, often disengaging from healthcare systems until advanced stages of disease. Thabo Mofutsanyane District in the Free State Province demonstrates high TB burden and poor male engagement, underscoring persistent health inequities.
This study aimed to identify human rights-related and gender-specific barriers that undermine men's access to TB care, contributing to delayed diagnosis, poor outcomes and increased community transmission
Description: Using a community-based participatory research model, this study engaged men aged 19 to 47 from rural villages across Thabo Mofutsanyane. Over six months (2023–2024), eight focus group discussions (FGDs) were conducted in Sesotho using semi-structured guides developed collaboratively with local civil society and health outreach teams. Transcripts were translated, coded, and analysed through participatory thematic analysis involving community researchers.
The study prioritized the ethical inclusion of marginalized voices and emphasized power-sharing in knowledge generation.
Lessons learned: Six interrelated themes emerged:
1. **structural health system failures**, including long waiting times and provider disrespect;
2. **perceived stigma** around TB and HIV diagnosis;
3. **socio-cultural norms of masculinity**, which discourage vulnerability and healthcare-seeking;
4. **economic precarity** and inflexible service hours;
5. **mistrust in health professionals**, rooted in prior negative encounters; and,
6. **digital opportunity**, with participants proposing WhatsApp-based peer support groups as low-cost, stigma-safe platforms. Despite high disease burden, health services rarely align with men's lived realities.
These insights reflect broader human rights failures: non-discrimination, dignity, and the right to accessible, acceptable care
Conclusions/Next steps: To realize rights-based, gender-equitable TB care, health systems must integrate differentiated, male-responsive models, including after-hours services, male peer educators, and integrated psychosocial support. CBPR emerges as a transformative tool to re-centre men's agency in care design. As TB elimination targets near, embedding community knowledge and dismantling gendered barriers is not only a scientific imperative but a moral one.
The findings call for scale-up of participatory mechanisms and structural reforms to align TB care with human rights principles.

EPLB021

Exploring the impact of healthcare provider attitudes on HIV, tuberculosis and malaria service uptake among marginalized women and sexual minorities in Southwest Nigeria

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Background: Marginalized women and sexual minorities, including female sex workers, LBQ women, and trans-women, face significant barriers to accessing HIV, tuberculosis (TB), and malaria services in Southwest Nigeria. These barriers are often driven by healthcare provider attitudes, including stigma, discrimination, and lack of cultural competence. Supported by the Global Equity Fund (GEF), this study aimed to assess the influence of healthcare provider attitudes on service uptake among these populations.
The objective was to identify key provider-related barriers and inform the development of inclusive, non-discriminatory healthcare interventions.
Methods: A convergent mixed-methods study was conducted between September and December in urban and peri-urban areas of Lagos and Ogun States, Southwest Nigeria. The study population included marginalized women and sexual minorities aged 18–49 years, recruited through purposive and snowball sampling techniques (N=308). Quantitative data were collected using structured surveys to assess healthcare experiences, perceived barriers, and service utilization patterns.
Qualitative data were gathered through 24 in-depth interviews (IDIs) and 8 focus group discussions (FGDs) with community members. Additionally, 35 healthcare providers completed surveys assessing their perceptions, competencies, and attitudes toward marginalized populations. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically to identify key barriers and service delivery challenges.
Results: Among participants (60% women, 40% trans or gender-diverse individuals, aged 18–49 years), 62.7% reported stigma or discrimination. Experiences included misgendering (41.2%), denial of services (36.8%), and judgmental treatment (49.5%). Service uptake remained low: PrEP use was 28.9%, TB screening 35.7%, and consistent malaria prevention 31.4%. Key barriers included fear of discrimination (66.2%), lack of culturally competent providers (58.3%), and misinformation (47.6%). Healthcare providers highlighted limited training and the need for inclusive service delivery protocols.
Conclusions: Provider attitudes substantially impact healthcare access for marginalized women and sexual minorities in Southwest Nigeria. Improving cultural competence through provider training, peer-led support models, and non-discriminatory service reforms is essential for enhancing HIV prevention, treatment, and care uptake among these populations.

EPLB022

"Mapping the journey of men affected by TB": human rights, gender norms, and community-driven responses in Lejweleputswa, South Africa

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Background: TB response continues to face critical gender gaps, with men experiencing delayed diagnosis, lower treatment initiation, and higher mortality compared to women. Despite their elevated burden, the lived experiences of men navigating TB care remain insufficiently understood in health system design.
This study applied a journey mapping framework to examine the social and structural determinants that shape men's help-seeking behaviour across the TB care continuum, with a particular focus on community support and human rights-based access.
Description: A qualitative study was conducted in Lejweleputswa District, Free State Province, a region with one of the country's highest TB incidence rates. Eight focus group discussions (FGDs) were held with 42 men aged 19–58 who had completed or were currently on TB treatment. Participants were recruited using purposive and peer-referral strategies from three primary healthcare facilities. Discussions, conducted in Sesotho, explored men's journeys across seven TB care stages: symptom recognition, help-seeking, diagnosis, initiation, treatment, retention, and post-treatment outcomes. Data were thematically analysed and visually mapped to capture turning points, barriers, and enablers.
Lessons learned: Men's TB trajectories are shaped by a matrix of gendered norms, human rights violations, and systemic neglect. Fear of stigma, cultural beliefs around masculinity, and harsh provider attitudes delayed early care-seeking.
Long queues, lack of privacy, and inconsistent counselling violated men's rights to dignified and confidential care. Crisis points often health deterioration or family pressure, served as involuntary entry points into the health system. Yet, peer-led support groups emerged as a critical turning point: they improved adherence, restored dignity, and transformed survivors into informal health advocates. Participants reported redefining masculinity around survival, responsibility, and community service.
Conclusions/Next steps: The findings underscore the urgency of human rights-based, gender-responsive TB programming. Interventions must ensure male-friendly, confidential, and accessible TB services while institutionalizing peer-led support structures.
Training health providers in rights-based, gender-sensitive care is essential. Journey mapping offers a replicable model to co-design TB interventions that reflect the lived realities and resilience of those most marginalized by gender-blind health systems.

EPLB023

Creating psychosocially safe spaces for youth in the HIV response: a mental health-centred, participatory approach in South Africa

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Background: South Africa's youth remain disproportionately affected by HIV and related risk behaviors, including substance use, poor health-seeking behaviour, and loss to follow-up. Despite free public healthcare services, young people often disengage due to **low risk perception, stigma, and mental health stressors**.

This study explores how participatory, non-paternalistic engagement strategies centered on **mental health, psychosocial safety, and youth agency**, can improve youth uptake of HIV and NCD services.

Description: This qualitative inquiry was grounded in youth-led participatory action research methods and conducted across three peri-urban districts between 2022 and 2024. It involved 7 youth focus groups (n = 83), key informant interviews with health professionals and traditional healers (n = 13), and community mapping exercises facilitated by trained youth researchers.

The study aimed to understand barriers to engagement and design co-owned health interventions that address psychosocial and emotional realities.

Analytical frameworks included narrative inquiry and grounded theory approaches focused on emotional safety, risk perception, and treatment decision-making.

Lessons learned: Participants cited emotional unsafety, judgmental staff, and lack of relatable communication as key barriers to accessing HIV, TB, and NCD services. Many youth described public facilities as "hostile," lacking in empathy and space for vulnerable dialogue.

High-risk behavior, including drug use, was linked to unresolved trauma and absence of trusted adult or peer mentors. Services were seen as top-down, with little room for collaborative problem-solving.

Youth emphasized the need for **safe, non-judgmental spaces** to process health information, explore identity, and navigate emotional readiness for treatment. Collaborative sessions with traditional healers revealed untapped potential for **integrative care**, especially when rooted in mutual respect and health literacy.

Conclusions/Next steps: A mental health-informed HIV response must invest in **psychologically safe spaces**, youth facilitation training, and culturally respectful engagement models. Services must move beyond prescription to participation, where young people are not only recipients of care, but architects of how it is delivered. Integrating mental wellness with HIV prevention is critical to improving retention, adherence, and health equity.

EPLB024

Harnessing sports, arts and culture to address TB stigma and psychosocial barriers among men in urban South Africa: a mental health perspective

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Background: TB remains a leading public health concern in South Africa, with men disproportionately underrepresented in testing, treatment, and support services. Beyond biomedical barriers, persistent psychosocial drivers, such as stigma, fear, isolation, and gendered norms of invulnerability, impede early engagement. While national campaigns exist, they often fail to resonate with male audiences or address the emotional and mental health aspects of TB.

This study explores the potential of sports, arts, and culture platforms to create psychologically safe, community-owned spaces for TB awareness and mental wellbeing among urban men.

Description: This qualitative study, conducted in Johannesburg from 2023–2024, engaged 87 male participants across three SAC hubs, using a phenomenological approach. Eight focus group discussions (FGDs) were facilitated through a semi-structured guide by community leaders from the SANAC Civil Society Forum's SAC Sector. Participants included community members. Discussions focused on TB knowledge, stigma, emotional coping, and the psychosocial impact of illness. Transcripts were thematically analyzed to identify mental health-related enablers and barriers in TB engagement.

Lessons learned: Five key themes emerged:

1. **internalized stigma and fear of judgment** hinder disclosure and care-seeking;
2. **lack of emotional support** exacerbates psychological distress during diagnosis and treatment;
3. SAC spaces offer **trusted, non-clinical settings** for mental health dialogue;
4. **storytelling, music, and sport** enable normalization of TB conversations; and,
5. peer support within SAC groups fosters belonging and resilience.

Participants expressed that health promotion through culturally rooted SAC platforms improved self-esteem, reduced isolation, and helped redefine masculinity around vulnerability and healing.

Conclusions/Next steps: Integrating TB awareness into SAC platforms offers a powerful mental health-responsive approach to reduce stigma, enhance emotional resilience, and promote help-seeking among men.

Public health strategies must embed culturally grounded, psychologically safe interventions in community settings. Co-designed SAC-based messaging, paired with mobile screening and referral services, can advance TB prevention while addressing the often-overlooked mental health dimensions of the epidemic.

Mpox oral abstracts

OAM01 Making impact with mpox: Epidemiology and medical countermeasures

OAM0102

Epidemiological profile of the early cases of mpox in Uganda, June 2024–January 2025.

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Background: Mpox was declared a Public Health Emergency of International Concern in July 2022, and reinstated in August 2024. Uganda reported its first confirmed case on July 24, 2024, and by December 15, 2024, >2,000 confirmed Mpox cases had been registered.
We described the epidemiology, exposures, and transmission dynamics among the early cases of Mpox in Uganda, to guide containment and control strategies.
Methods: All persons tested for Mpox in Uganda provided baseline information for a national line-list including: age, sex, residence, phone-contacts, occupation and symptoms. The National Rapid Response Team conducted case investigations on confirmed cases at isolation centers and in communities. Individuals with unreachable phone-contacts and not in isolation weren't interviewed. A confirmed case was a laboratory-confirmed Mpox infection in a resident of Uganda during June 1, 2024–January 22, 2025.
Results: By January 22, 2025, 2,209 laboratory-confirmed case-persons, including 13 deaths (case fatality rate=0.6%) were reported across 78 (53%) of the country's 146 districts, 6 reported >40 case-persons per district. Kampala District was the most affected, accounting for 1,205 (55%) case-persons, with an attack rate of 64 per 100,000 population. Most (1,259, 57%) were males, and the mean age was 27 (±11) years, ranging from 0 to 80 years.
A total of 424 (19.4%) confirmed cases provided occupational data, most of whom were students (10.8%) and female sex-workers (9.9%). Three hundred (13.6%) confirmed-cases were fully investigated, of which 71(23.7%) had chronic illnesses with most 60 (85%) living with HIV.
Exposure was established among 120 of the 300 fully investigated case-persons, most (72, 61%) contracted Mpox through sexual contact, primarily driven by sex-work. Most (n=82, 41%) of the first 200 Mpox case-persons sought care at private health facilities, where 85.6% (70/82) were misdiagnosed.
Conclusions: The Mpox outbreak in Uganda predominantly affected young adults, with a significant proportion of the early case-persons seeking care at private health facilities, where misdiagnosis was common. Most of the 300 fully investigated case-persons acquired Mpox through sexual transmission, mainly through sex-work. To effectively interrupt transmission, we recommended targeted strategies such as vaccination, including high-risk categories such as sex-work networks, and improving surveillance especially within private health-facilities.

OAM0103

From displacement to disease: unpacking the syndemic interplay between HIV and mpox among refugees in South Western Uganda

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Background: The intersection of protracted displacement, weakening public health infrastructure, and emerging zoonoses presents a fertile ground for syndemics in refugee settlements. This study introduces and tests the Syndemic Amplification Hypothesis—that HIV and Mpox in humanitarian settings do not co-occur by coincidence but are biologically and socially intertwined, amplifying each other's burden through shared pathways of vulnerability.
We aimed to determine the prevalence, co-morbidity patterns, and social drivers of HIV and Mpox among refugees, with a focus on transactional survival sex, mobility, and breakdown of social norms.
Methods: A prospective cohort study was conducted between October 2024–March 2025 across Nakivale refugee settlements. We recruited 1,030 participants (aged 13–49) through multistage cluster sampling. Testing for HIV and Mpox was combined with behavioral surveillance. Participants followed for 6 months assessing incident Mpox diagnoses and HIV seroconversions.
Additionally, 24 digital life-history interviews conducted using participatory timeline mapping and ethnographic shadowing of 12 youth at risk. Multivariate logistic regression and Cox proportional hazards models identified risk predictors. Qualitative data analyzed using grounded theory.
Results: Baseline, HIV prevalence was 13.8% (18.6% female, 8.4% male). Mpox prevalence was 5.1% (72% adolescents aged 13–24). Among Mpox diagnoses, 47.2% were also HIV-acquired. Co-acquisition individuals had significantly higher risk of severe Mpox manifestations (OR: 3.9; 95% CI: 2.4–6.1) and longer healing times (median: 18 days vs. 9 days; p<0.001). Youth aged 15–24, 41.3% engaged in survival sex; condom access was consistently unavailable for 67%. Mobility across border regions (esp. DR Congo) was a significant predictor of Mpox incidence (HR: 2.7; p=0.004). Qualitative analysis revealed a breakdown of normative sexual boundaries, erosion of parental roles,emerging scarcity driven sexual economies. Social trust in health workers was low due to stigma and militarized quarantine enforcement during Mpox outbreaks.

Conclusions: Our findings demonstrate that Mpox is no longer merely a zoonotic spillover but part of a larger syndemic dynamic in fragile settings. Targeted interventions must integrate syndemic thinking—addressing the social conditions enabling pathogen co-propagation.
We recommend:
1. Integrated Mpox-HIV screening and case management,
2. Cross-border disease surveillance, and;
3. Creation of safe spaces for youth-centered care and sexual health education.

OAM0104

PROJECT trial: proactive regional orthopox genomic epidemiology and cross-regional outbreak tracking—a multinational investigation into mpox evolution, vaccine efficacy, and transmission dynamics across the Middle East

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Background: Mpox cases have surged across the Middle East since 2023, raising concerns over viral evolution, reduced vaccine protection, and gaps in regional surveillance—particularly for people with HIV. The PROJECT Trial characterized viral adaptation, immunity durability, and outbreak dynamics in five Middle Eastern countries.
Methods: This prospective, multicenter cohort study enrolled 9,126 individuals (including 687 people with HIV [PWH]) from Saudi Arabia, UAE, Egypt, Jordan, and Lebanon over 18 months. Participants were stratified into: MVA-BN-vaccinated (*N=4,573*), prior-Mpox-exposed (*N=3,129*), and unvaccinated/unexposed controls (*N=1,424*), with HIV status documented for all. Full-length viral sequencing (every 8 weeks) prioritized PWH samples for adaptive mutation analysis. Humoral/cellular immunity (neutralization titers, IFN-γ ELISPOT) compared PWH (*n=687*) vs. non-HIV participants. Transmission modeling weighted HIV-specific risks (e.g., CD4 count <200) alongside contact-tracing and mass-gathering data.
Results: Clade IV-ME Mpox (41.3% prevalence) carries A27L-L205F mutation enhancing spread. Vaccinated groups showed 64% antibody decline (1:128→1:46; 1:98→1:29 in PWH), with 17.4% breakthrough cases (23.1% in PWH; aHR=2.21). T-cell responses dropped 32% (47% in PWH; $p<0.001$). R_0=1.72 (general) → 2.48 (mass gatherings), 28.4% linked to PWH super-spreading. Asymptomatic rate: 13.6% (6.3% in PWH). Hospitalizations 1.9× higher overall (3.2× in PWH). Variant detection delayed 6 weeks (22% PWH undiagnosed pre-hospitalization).

Finding	Data	Implication / Clinical Significance
A27L-L205F mutation	Enhances viral adhesion/entry	Increased the ability to spread may require updated vaccines or therapeutics targeting this mechanism.
Neutralizing antibody decline	64% drop (1:128 → 1:46) by 12 months post-vaccination	Current vaccines lose efficacy over time; booster doses may be needed for sustained protection.
Breakthrough cases	17.4% rate; aHR 2.21 if vaccinated >10 months prior (95% CI: 1.88–2.59)	Revaccination schedules should prioritize high-risk groups (e.g., immunocompromised, sexual health clinics).
T-cell response reduction	32% lower vs. Clade II (p=0.003)	Cellular immunity is compromised; vaccines may need adjuvants to enhance T-cell activation.
Increased transmissibility (R_0)	R_0=1.72 (baseline) → 2.48 (mass gatherings)	Targeted interventions (e.g., pre-event vaccination, testing) critical for concerts/festivals.
Asymptomatic transmission	13.6% of secondary cases	Silent spread complicates containment; contact tracing and PCR screening must be prioritized.
Higher hospitalization in vaccinated	1.9× higher vs. unvaccinated (Egypt/Jordan)	Breakthrough cases may present atypically; clinicians need training to recognize Clade IV-ME symptoms.
Delayed variant detection	Up to 6-week lag in Lebanon/Jordan	Investment in regional genomic surveillance is urgent to track emerging variants.

Table 1. Key Findings and Implications of Mpox Clade IV-ME

Domain	Virologic Feature	Population Impact	Countermeasure Gap
The ability to spread	• A27L-L205F mutation (↑ adhesion)	• R_0=1.72→2.48 in mass gatherings	• Current vaccines target ancestral strains
Immune Escape	• 32% ↓ T-cell response (p=0.003)	• 17.4% breakthrough cases (aHR=2.21*)	• No clade-specific boosters available
Transmission	• 13.6% asymptomatic transmission	• 6-week variant detection delays in Levant	• Limited PCR screening capacity
Clinical	• 1.9× ↑ hospitalization (vax vs unvax)	• Atypical symptoms delay diagnosis	• Clinician training outdated

Table 2. Mpox Clade IV-ME: Threat Assessment Matrix
*95% CI:1.88–2.59 for >10mo post-vaccination

Conclusions: Clade IV-ME Mpox exhibits enhanced spread (accelerated in PWH) and waning vaccine protection by 9–12 months (faster in PWH), urging updated boosters for high-risk groups. Silent transmission and surveillance gaps (notably in PWH) demand strengthened genomic tracking and HIV-inclusive outbreak responses during mass gatherings.

OAM0105

Efficacy of modified-vaccinia Ankara vaccine as pre-exposure and post-exposure prophylaxis against monkeypox sexual transmission in non-human primate model

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Background: Two major monkeypox virus (MPXV) outbreaks caused by two distinct clades (I and II) were reported since 2022 causing a human infectious disease with unusual epidemiological and clinical features, notably an increase in human-to-human transmission via sexual route. This evolution underscores the need to reassess prevention and control strategies in the context of a sexually transmitted disease.

Methods: After establishing a mucosal transmission model of MPXV Clade IIb via the rectal route in cynomolgus macaques—which resulted in moderate disease characterized by skin lesions primarily in the genital area, localized proctitis, fever, and lymphadenomegaly—we evaluated the immunogenicity and efficacy of the modified vaccinia Ankara (MVA) vaccine administered in both a pre-exposure prophylaxis (PrEP) and a post-exposure prophylaxis (PEP) regimen against MPXV IIb rectal transmission.

We conducted a longitudinal follow-up of the animals, monitoring viral replication as well as antibody and T cell responses induced by natural immunity in convalescent animals previously exposed to MPXV.

Results: We demonstrated that two doses of MVA induce specific B and T cell responses against Clade IIb MPXV and elicit antibodies that cross-neutralize MPXV Clade I and II viruses. The MVA-PrEP immunization approach protects against subsequent Clade IIb MPXV rectal challenge with drastic decrease of viral load in different compartment including the genital tract. However, a single dose of MVA administered four days post-exposure, as recommended by authorities, failed to protect macaques against mpox disease. We also showed that the exposure of non-vaccinated cynomolgus macaques to clade IIb MPXV via the atraumatic rectal mucosa route induces productive localized infection in the rectum, followed by systemic dissemination and mpox disease, whereas previously MPXV-challenged animals are protected against a new exposure via the same route.

Conclusions: Our findings validate two doses of MVA-PrEP as an efficient vaccine protocol against mpox in the context of the current epidemics, including in cases of mucosal transmission. However, both protection and immunological response data indicate that MVA-PEP is not effective, as it failed to prevent MPXV production in the rectal or seminal fluids. These findings have a critical impact on outbreak management and highlight the importance of reevaluating MVA post-exposure prophylaxis protocols.

Mpox poster exhibition

TUPEM001

Safety profile of tecovirimat in Congolese mpox patients enrolled in a randomized controlled trial

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Background: Monkeypox (Mpox) is a zoonotic disease that has been endemic in the Democratic Republic of Congo (DRC) since it was first discovered in a 9-month-old Congolese infant in 1970. While the global epidemic is caused by clade II, the epidemic in the DRC is caused by clade I. Mortality varies between 0,1-10%, but multisystemic effects with disabling sequelae are feared. So far, there is no treatment approved on the basis of clinical trials. The FDA approved Tecovirimat for treatment of smallpox in adults and children under the "Animal Rule" i.e. based on animal studies. In the face of such a situation of lack of approved treatment, attention may focus on efficacy, to the detriment of safety, which is nevertheless crucial for the optimal use of the drug.
The PALM 07 study is a clinical trial conducted in the DRC to assess the efficacy and safety of tecovirimat in the management of MPOX. This publication evaluates the safety data collected during this study. The current study focuses on the serious adverse events that occurred during this study.
Methods: PALM 007 is a randomised, double-blind clinical trial conducted in the DRC from September 2022 to June 2024. Adult participants, including pregnant women, and children recruited in Tunda in Maniema Province and Kole in Sankuru Province were randomised to receive either tecovirimat or placebo in combination with optimal standard of care.
Results: Of the 597 participants enrolled in the study, 27 experienced serious adverse events, including 10 deaths, 9 of which were children. Of the 16 pregnancies monitored, there were 8 live births and 8 pregnancy losses: 5 foetal deaths in utero and 3 early abortions.
None of these adverse events were related to the investigational product, according to pharmacovigilance imputation analyses.
Conclusions: Although it has not shown superiority over standard treatment, Tecovirimat is safe. The study shows that the basic conditions of patients with MPox and concomitant diseases can lead to unfavorable outcomes and must be taken seriously.

TUPEM002

Mpox-IRIS in people with HIV: insights from a cohort in Rio de Janeiro, Brazil

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Background: Mpox was declared a public health emergency of international concern twice within two years. Brazil, heavily affected by the 2022 outbreak, reported severe outcomes among people with HIV(PHIV) and advanced immunosuppression. The role of Immune Reconstitution Inflammatory Syndrome(IRIS) in mpox pathogenesis remains insufficiently elucidated. This study examines PHIV and suspected IRIS-mpox in a cohort from Rio de Janeiro, Brazil.
Methods: Prospective cohort of PHIV diagnosed with mpox at INI-Fiocruz, a state-level referral center. We described participants' characteristics, identifying people with suspected IRIS-mpox, defined as clinical worsening of mpox-related symptoms following antiretroviral therapy (ART) optimization/initiation.
Results: Among 361 PHIV with mpox between June 2022-September 2024, 12.4% (n=44/356) had HIV-RNA viral loads (VL) higher than 1,000 copies/mL at mpox initial assessment.
Participants with unsuppressed VL were more frequently younger (median age: 31 (IQR:28,39) *vs* 35 (IQR:30,40) years, p=0.03), black/*pardo* (72.5% *vs*60.5%, p=0.04), had lower educational levels (primary/secondary: 70% *vs* 42.3%, p<0.01), lower CD4+ T-lymphocyte counts (<=350 cells/mm³: 43.9% *vs* 7.1%, p<0.01), higher number of mpox lesions (>50: 22.6% *vs*7.3%, p=0.02) and increased hospitalization rates (24.4% *vs* 9.8%, p=0.02).
Five participants had suspected mpox-IRIS, mostly ART-naïve (n=3/5) or reporting irregular ART adherence at the time of symptoms onset (n=2/5). All of them had CD4+ count below 200 cells/mm3 and HIV-RNA VL higher than 200 copies/mL.
All participants started or reinitiated ART after the onset of mpox and, following ART initiation/optimization, they evolved with worsening of mucocutaneous lesions (n=5/5), ophthalmologic symptoms (n=1/5) and pulmonary nodules (n=1/5). Tecovirimat and steroids were prescribed to four participants. The median time to mpox resolution was 107 days (IQR:94–123) (*Table*).
No deaths were reported among participants with suspected IRIS-mpox.

	HIV status (at mpox symptoms onset)	Clinical management information	Time from mpox onset to ART initiation/ optimization (days)	Time from ART initiation/ optimization to viral suppression (days)	Time from mpox onset to viral suppression (days)	Time from viral suppression to mpox lesion resolution (days)	Time from ART initiation/optimization to tecovirimat initiation (days)	Time from mpox onset to tecovirimat initiation (days)	Time from mpox onset to lesion resolution (days)
1	ART: Irregular adherence CD4+: 75 cells/mm³ VL: 11,377 cps/mL	Tecovirimat: Yes Steroids: Yes	40	9	49	76	-11	29	125
2	ART: Naïve CD4+: 84 cells/mm³ VL: 2,200 cps/mL	Tecovirimat: Yes Steroids: No	3	55	58	5	19	22	63
3	ART: Naïve CD4+: 104 cells/mm³ VL: 5,740 cps/mL	Tecovirimat: Yes Steroids: Yes	20	34	54	113	28	48	167
4	ART: Naïve CD4+: 85 cells/mm³ VL: 323,152 cps/mL	Tecovirimat: No Steroids: Yes	38	53	91	17	NA	NA	108
5	ART: Irregular adherence CD4+: 186 cells/mm³ VL: 238 cps/mL	Tecovirimat: Yes Steroids: Yes	2	32	34	71	19	21	105

Table. Clinical characteristics of PHIV and suspected IRIS-mpox

Conclusions: Mpox-IRIS may significantly influence the pathogenesis and prolonged course of mpox. Early ART initiation remains critical for immune recovery and viral clearance. Strengthening HIV care pathways with a focus on early diagnosis and ART adherence is essential for improving outcomes in mpox management.

TUPEM003

Prevalence and associated factors of post-traumatic stress disorder, depression and anxiety disorders among mpox survivors, Uganda, 2024

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Background: By December 30, 2024, Uganda had reported approximately 800 mpox cases across 53 districts, with Kampala Metropolitan Area (KMA) bearing around two-thirds of the burden. Most outbreaks neglect mental health. We assessed the prevalence and associated factors of anxiety, depression, and Posttraumatic stress disorder (PTSD) among mpox survivors in the most affected districts in Uganda.
Methods: This cross-sectional community-based study was conducted from February 1–28, 2025, using simple random sampling of survivors from Kampala, Mukono, and Wakiso districts. Anxiety and depression were assessed using the Hospital Anxiety and Depression Scale, while PTSD was evaluated with the PTSD Checklist DSM-5. Associated factors for each condition were determined using modified Poisson regression.
Results: We enrolled 385 participants with a median age of 29 years (IQR: 25–35), 60% of whom were female, and 35% were sex workers. The prevalence of anxiety was 11% (n=43; 95% CI 8%–14%), depression was 14% (n=53; 95% CI 11%–18%), and PTSD was 9% (n=33; 95% CI 6%–12%). Reduced anxiety prevalence was associated with being married/cohabiting (aPR=0.3, 95% CI 0.2–0.8).
Increased anxiety prevalence was linked to suffering severe mpox symptoms (aPR=3.9, 95% CI 1.7–9.2), staying >2 weeks in the treatment unit (aPR=2.2, 95% CI 1.1–4.6), experiencing stigmatization (aPR=3.2, 95% CI 1.5–7.0), and poor management at the treatment unit (aPR=2.9, 95% CI 1.1–7.6). Increased depression prevalence was associated with staying >2 weeks in the treatment unit (aPR=3.9, 95% CI 1.9–7.9), poor management at the treatment unit (aPR=2.4, 95% CI 1.3–4.2), suffering moderate (aPR=2.2, 95% CI 1.1–4.5) or severe mpox symptoms (aPR=3.9, 95% CI 1.7–7.6), and stigmatization (aPR=2.4, 95% CI 1.2–5.0).
Increased PTSD prevalence was associated with losing a household member to mpox (aPR=3.2, 95% CI 1.3–8.0), illness duration >2 weeks (aPR=1.9, 95% CI 1.0–5.3), severe mpox symptoms (aPR=19.1, 95% CI 2.4–150.2), and stigmatization (aPR=3.2, 95% CI 1.1–9.4).
Conclusions: Approximately 1 in 10 mpox survivors surveyed experienced a mental health disorder during the illness or recovery. These findings underscore the need for integrated mental health support in mpox outbreak responses to address the psychological impacts.

TUPEM004

Factors associated with mpox mortality in Uganda, 2024–2025

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Background: While Mpox typically presents as a self-limiting illness, it can lead to severe complications and fatalities. As of April 4, 2025, a total of 5,087 confirmed Mpox cases and 38 Mpox-related deaths were reported in Uganda. We set out to determine factors associated with Mpox mortality in Uganda from August 2024–April 2025.
Methods: We conducted a 1:4 unmatched hospital-based case-control study among Mpox individuals who were admitted to Entebbe and Mbarara mpox treatment unit (ETU). A case was a confirmed mpox patient whose death was attributed to mpox while controls were were the next four consecutive confirmed mpox survivors admitted to the treatment unit.
We reviewed medical records of the selected individuals and captured information on their sociodemographic, individual, and clinical characteristics in a structured questionnaire. Logistic regression was used to identify factors associated with mpox fatality. Common reference group analysis was conducted to identify specific comorbidities that increased the risk of death.
Results: We enrolled 38 cases and 152 controls. Mpox-related deaths were higher among females (54%), individuals with underlying medical conditions (74%), and those with HIV (68%). The odds of death were significantly higher in children aged ≤5 years (aOR 3.3; 95%CI 2.6–19), rural residents (aOR 21; 95% CI 5.03–84), patients with any co-

morbidity (aOR 14; 95% CI 5.2–38), those who had more than one sexual partner (aOR 13; 95%CI 4.7–35), and those who delayed care-seeking beyond seven days (aOR 3.4; 95% CI 1.4–8.3).
Among patients with comorbidities, persons living with HIV had six times higher odds of mortality compared to those without comorbidities (aOR: 6.2, 95%CI: 3.0–13). The odds were twice those who had HIV only for individuals with multimorbidity (aOR: 15, 95%CI: 3.6–65).
Conclusions: Mpox-related mortality in Uganda was significantly associated with age ≤5 years, rural residence, underlying medical conditions, particularly HIV and multimorbidity, having multiple sexual partners, and delayed care-seeking.
Strengthening timely healthcare access and targeted interventions for high-risk groups particularly in rural residents, those with multiple sexual partners and individuals with comorbidities could reduce mpox-related mortality.

TUPEM005

Healthcare seeking for mpox: results of an electronic survey among MSM in Mexico City

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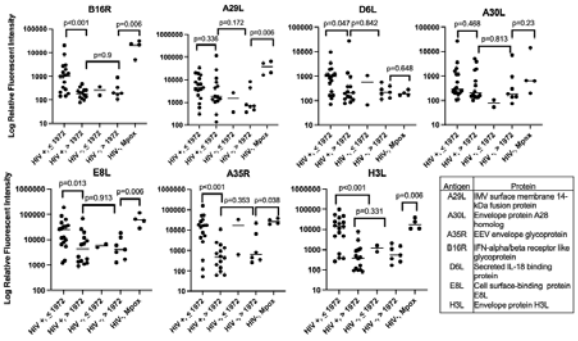
Background: In Mexico, the epidemiological data of the outbreak mainly came from passive surveillance, which meant a substantial limitation in knowing the actual prevalence and barriers to healthcare access.
Methods: A cross-sectional survey was conducted using an electronic platform to explore demographic data, experiences of stigma and discrimination, and changes in the sexual behavior of adult men who have sex with men (MSM) in Mexico City and the Metropolitan Area.
The questionnaire was adapted from the American Men's Internet Survey, the Libero-Pox survey, and Gómez-Castro J and peer-reviewed for comprehension and validation. The survey was distributed through social media between May and July 2023.
Participants were categorized as "Probable case" (PC-Mpox), defined as a person with skin or mucosal lesions in association with at least one of the following signs or symptoms: fever, myalgias, headache, lymphadenopathy, asthenia, arthralgias or low back pain or "Confirmed case" (CC-Mpox) defined as a "probable case" with a positive PCR test.
A descriptive analysis was made, and the PC-Mpox and CC-Mpox prevalence rates were calculated.
Results: A total of 419 participants were included. Median age was 33 years old, 94% (392) identified as cisgender men, 0.5% (2) as transgender men, and 6% (25) as non-binary. The majority 88% (369) identified as homosexual, followed by bisexual 8% (35), and 35% (146) declared living with HIV.29% (121) of participants presented at least one symptom, with 16% (66) meeting the PC-Mpox criteria and 11% (46) the CC-Mpox definition.
Attending meeting venues 85% (56) and substance use during sexual intercourse 61% (40), was more frequent in PC-Mpox (p <0.01) while condom use in the last encounter 30% (20) was less frequent (p <0.01).
Of the symptomatic population, 31% (38) did not seek healthcare, and a PCR test was performed only in 48% (40) of those who did. Discrimination was perceived in 28% (19) of the PC-Mpox who attended healthcare services.
Conclusions: In this survey, a third of the symptomatic population did not seek healthcare, underscoring the potential underestimation of Mpox cases in our context. Stigma and discrimination towards key populations may represent a significant barrier to access to healthcare in Mexico.

WEPEM001

Breadth and magnitude of humoral responses to monkeypox virus among persons with and without HIV

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Background: Little is known about humoral immune responses to the JYNNEOS mpox vaccine in people with HIV-1 (PWH). We hypothesized that after JYNNEOS, PWH would exhibit similar antibody responses to monkeypox virus (MPXV) proteins as persons without HIV (PWoH) and that persons with convalescent mpox or prior smallpox vaccination would demonstrate more robust antibody responses.
Methods: Adult PWH and PWoH were recruited from primary care and PrEP clinics. Vaccination history was obtained by interview and review of medical records. Plasma IgG binding to seven MPXV proteins expressed in HEK293 cells was measured by RayBiotech Mpox Virus Protein Array. Persons who received two doses of JYNNEOS 2-18 months before entry were considered vaccinated; those who had never received JYNNEOS were considered unvaccinated.
Birth before 1972 was considered a marker for prior smallpox vaccination. Intergroup differences in relative fluorescence units (RFU) for IgG binding were assessed by Mann-Whitney tests.
Results: 55 participants were enrolled: 31 PWH/vaccinated (median CD4+ 714/μL; 87% plasma HIV-1 RNA <20 c/mL), 9 PWoH/vaccinated, 4 PWoH/mpox, and 11 PWoH/no mpox or vaccine. Breadth and magnitude of IgG binding to MPXV proteins was similar among PWH/vaccinated and PWoH/vaccinated groups. Among PWH/vaccinated, birth before 1972 was associated with greater IgG binding to B16R (log difference 0.74 RFU), D6L (log difference 0.68 RFU), E8L (log difference 0.77 RFU), A35R (log difference 1.54 RFU) and H3L (log difference 1.55 RFU). Among PWoH, recovery from mpox was associated with greater IgG binding to B16R (log difference 2.07 RFU), A29L (log difference 1.74 RFU), E8L(log difference 1.09 RFU), and H3L (log difference 1.34 RFU) than vaccination.



Conclusions: HIV-1, controlled with antiretroviral therapy, did not affect humoral responses to JYNNEOS vaccine. PWH born in 1972 or earlier had greater humoral responses compared to PWH born after 1972. The greatest immune responses occurred after recovery from mpox.

WEPEM002

Mpox in Peru: assessing disease burden and the effectiveness of the national response

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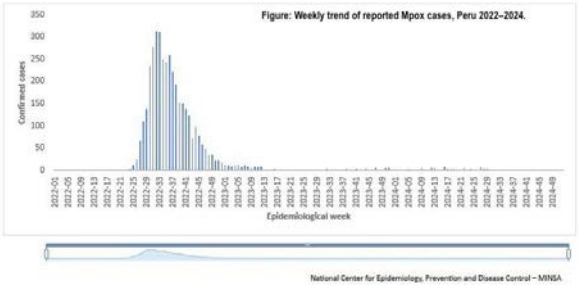
Background: In mid-2022, Peru became one of the Latin American countries most affected by the global Mpox outbreak. The epidemic disproportionately impacted men who have sex with men (MSM) and people living with HIV (PLHIV), posing urgent challenges in rapid case detection, stigma-free communication, and integration of Mpox services into existing HIV programs.

Description: Between June 2022 and March 2023, Peru reported 3,864 confirmed Mpox cases—over 90% in Lima. Most affected individuals were men aged 20–49; approximately 60% were PLHIV.

All 21 reported deaths occurred among PLHIV. The Ministry of Health launched a comprehensive response including:

- Free, decentralized access to Mpox diagnosis and treatment.
- Rapid release of national clinical guidelines.
- Digital health campaigns targeting PLHIV and LGBTIQ+ communities via platforms like Facebook and Grindr.
- Partnerships with community-based organizations.
- Urban mobile outreach teams conducting case finding in LGBTQ+ settings, supported by peer counselors.
- Introduction of the MVA-BN vaccine for high-risk groups.
- Genomic surveillance to track viral clusters and lineages.

These measures led to a sustained decline in Mpox cases by early 2023.



Lessons learned:

- Early case detection through an innovative active case-finding strategy using urban mobile outreach teams.
- Early, inclusive engagement with affected communities was essential to reduce stigma and increase health-seeking behaviors.
- Integrating Mpox care into HIV services improved access and trust.
- Digital platforms can be powerful tools for targeted health messaging when culturally adapted.
- Transparent and targeted risk communication helped counter misinformation
- Public–civil society collaboration strengthened surveillance and case management at the community level.

Conclusions/Next steps: The Peruvian experience underscores the importance of a multisectoral, equity-focused approach to epidemic response.

Key factors in the successful containment of the Mpox outbreak included timely interventions, active community engagement through internet-based social networks, and tailored communication strategies. This model provides valuable insights for responding to future emerging infectious diseases in the region.

WEPEM003

Impact of vaccination amid armed conflict on the mpox epidemic in the democratic republic of the Congo, 2024–2025: a modeling study

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Background: Since January 2024, the Democratic Republic of the Congo (DRC) has faced a rapidly escalating mpox epidemic, fueled by mixed transmission routes and the emergence of a novel clade Ib—associated with a higher case fatality rate than clade IIb, which dominated the 2022–2023 global outbreak. In August 2024, the World Health Organization (WHO) declared mpox a Public Health Emergency of International Concern (PHEIC).

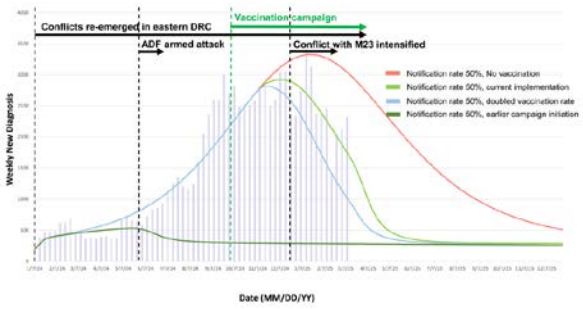
This study aimed to provide early, policy-relevant estimates of the impact of a vaccination campaign initiated in October 2024 amid ongoing armed conflict.

Methods: We developed a deterministic, risk-structured transmission model incorporating zoonotic, household, and sexual human-to-human transmission. The model was fitted to WHO-reported mpox case data from Jan-

uary 2024 through March 2025. Vaccination data for first and second doses were obtained from UNICEF and other sources. Epidemic trajectories were projected through December 31, 2025, under scenarios with and without vaccination. Sensitivity analyses addressed uncertainty in case notification rates and asymptomatic proportions, and variation in vaccination rates and timing of campaign initiation.

Results: The model estimated a basic reproduction number (R_0) of 1.41 within a key population comprising 0.7% of the total. The vaccination campaign is projected to prevent 31.36% (19.87% – 39.71%) of cases and 31.18% (19.77% – 39.41%) of deaths by the end of 2025.

Doubling the vaccination rate could increase prevention to 38.72% (25.77% – 47.06%) of cases and 38.56% (25.69% – 46.80%) of deaths. A hypothetical campaign starting in January 2024 would have averted 79.64% (76.88% – 82.03%) of cases and 79.88% (68.87% – 82.19%) of deaths.



Conclusions: Despite operational challenges in a conflict-affected setting, the vaccination campaign is projected to substantially mitigate mpox transmission and mortality. Critically, earlier vaccine deployment could have averted the majority of cases and deaths.

These findings underscore the vital importance of timely and context-sensitive vaccination strategies to control emerging epidemics in humanitarian crisis zones.

WEPEM004

Uptake and adverse events following mpox vaccination rollout in Nigeria

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Background: Mpox is a re-emerging public health threat, especially among individuals at high-risk such as healthcare workers (HW), men who have sex with men (MSM), and people living with HIV (PLHIV). Following the 2024 outbreak, Nigeria approved the JYNNEOS vaccine for prevention of Mpox. However, data on vaccine uptake and safety in these populations remain limited. We evaluated mpox vaccine uptake and adverse events following rollout in a high-risk Nigerian cohort.

Methods: This was a prospective cohort study with 4 visits of adults considered high risk and targeted for mpox vaccination by the National Primary HealthCare Development Agency (NPHCDA). Participants were enrolled from the Abuja and Bayelsa State between November 21 and December 6, 2024. Two doses of the JYNNEOS vaccine 28 days apart were provided. Following each dose, adverse events following immunization (AEFIs) were monitored daily for the first seven days and thereafter, weekly over 21 days, telephonically. Data were managed and analyzed with REDCap and R respectively.

Results: Of the 153 participants enrolled, mean age was 35±11years; 58% (89) were men, 40% (61) were women, and 2% (3) transgender individuals. Based on risk categories, 33% (50) were MSM/transgender individuals, 37% (56) were PLHIV, 35% (54) were HW, and 20% (30) were residents of Mpox-endemic communities. Some participants overlapped across the risk groups. Following the first dose, 80% (123) received the second dose. Uptake of the second dose was highest among HW (98%,53), followed by residents of endemic communities (80%,24) and MSM/transgender (78%,39), whereas PLHIV had the lowest uptake (68%,37).

Among study participants, 62% (95) reported an AEFI after the first dose, while 40% (49) reported an AEFI after the second dose. The most common AEFIs were injection site pain (65%,80), headache (15%,18), fever >38.5°C (12%,15), and malaise (11%,13). No serious adverse events were reported.

Conclusions: Mpox vaccine uptake and completion were high among individuals considered high-risk in Nigeria, though with mild AEFI confirming the safety of the JYNNEOS vaccine. Thus, targeted vaccination to high-risk population is strategic in improving uptake against emerging infections. However, innovative ways to maximize uptake of follow up dose are needed especially among PLHIV.

WEPEM005

Predictors and reasons for remaining unvaccinated against mpox in Australia in 2024: results from a prospective observational mixed methods study (2022–2024)

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Background: Unlike other high-income countries, Australia experienced a resurgence of mpox in 2024 (n=1,408), with case numbers exceeding cases in 2023 (n=26) and 2022 (n=144). Of 2024 cases, 99.2% occurred in males. As of March 2024, vaccine coverage among gay and bisexual men (GBM) responding to community surveys was about 50%. We identified factors associated with remaining unvaccinated in 2024.
Methods: The TraX study was a prospective online-only cohort established early in the vaccine rollout in 2022 among GBM and their sexual partners. Weekly surveys measured self-reported mpox vaccine uptake.
Logistic regression analyses were conducted to identify predictors of remaining unvaccinated in April 2024. Adjusted odds ratios with 95% confidence intervals (aOR-,95%CI) quantified associations. Qualitative responses about decisions not to vaccinate were analyzed using the Framework Method.
Results: Recruitment began on September 28, 2022, enrolling 1,069 participants through social media and community organizations. Of these, 86.2% (n=922) completed a follow-up survey, and 44.2% (n=472) responded in 2024. Mean baseline age was 44 years. Most participants identified as cis men (92%) and gay (79%). By study end, 17% (n=81) remained unvaccinated.
Participants were less likely to be vaccinated if they lived in postcodes with fewer than 5.0% gay male residents (aOR:0.26,95%CI:0.12–0.54), were not living with HIV (aOR-:0.21,95%CI:0.05–0.96), or had not been diagnosed with a STI in the previous six months (aOR:0.27,95%CI:0.09–0.84). Additionally, lower uptake was associated with fewer COVID-19 vaccinations (aOR:0.67,95%CI:0.52–0.86), fewer casual male sex partners (aOR:0.43,95%CI:0.20–0.92), less participation in group sex (aOR:0.51,95%CI:0.28-0.93), less international travel involving sex with non-relationship male partners (aOR:0.49,95%CI:0.27–0.87), and lower concern about mpox (aOR:0.21,95%CI:0.08–0.54). Qualitative analysis (n=56) showed participants viewed their risk as low due to location, sexual behavior, and assumed immunity. Other reasons included healthcare inaccessibility, vaccine unavailability, side-effect concerns, and unclear vaccine information.
Conclusions: The vaccination rate in the cohort was higher than national estimates for GBM. Among those who remained unvaccinated, most made decisions consistent with perceived risk and public health messaging. However, some participants may have underestimated their risk based on behaviors reported. Addressing side-effect concerns, improving access to vaccination, and clarifying personal risk factors may help increase uptake.

THPEM001

Understanding the epidemiology, clinical characteristics and infection severity of mpox cases in 2024 outbreaks in Victoria, Australia

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Background: Following the global mpox outbreak in 2022, clusters of clade II mpox cases have continued to emerge in 2024 in many countries, including Australia. This study describes the epidemiology, characteristics, and severity of mpox cases presented to a public sexual health clinic in Victoria during the 2024 outbreaks.
Methods: We conducted a retrospective cross-sectional study of mpox-confirmed cases at the Melbourne Sexual Health Centre, Australia between January and September 2024. We collected data on demographic characteristics, sexual behavioural data, and vaccination history, clinical characteristics, and infection severity. We examined the factors associated with mpox clinical severity (mild, moderate, severe) using multinominal logistic regression.
Results: We included 156 mpox confirmed cases (155 men and 1 woman) with the median age of 35 (IQR: 31-40), and most were men who have sex with men (MSM) (98%, n=153). More than half (59%, n=89) had at least one mpox vaccine. Mpox vaccination was highest in pre-exposure prophylaxis for HIV (PrEP) users (73%, n=65), followed by persons living with HIV (PLHIV) (19%, n=17), and HIV-negative non-PrEP users (8%, n=7). One person had a previous mpox infection in 2022.
Most (92%, n=143) had mild or moderate symptoms, and 8% (n=12) had severe symptoms with 8 men requiring hospitalisations. One was lost to follow-up. Unvaccinat-

ed cases had higher mean number of lesions (n=8) compared to vaccinated cases (n=5, p=0.013). Vaccinated cases (n=89) had lower odds of severe disease than unvaccinated cases (n=64) (odds ratio[OR]: 0.22, 95%confidence interval [CI]:0.06-0.79, p=0.02). An increase in the number of lesions was associated with more severe disease (OR: 1.13, 95%CI: 1.05-1.23, p=0.002). PrEP use, HIV status, and age were not associated with clinical severity.

Conclusions: Our findings suggest mpox vaccination reduces disease severity. However, the notable number of unvaccinated PLHIV and non-PrEP users highlighted the need for increased awareness and public health campaigns to boost vaccine uptake among MSM to protect the community.

THPEM002

Epidemiology, clinical features, and outcomes of mpox in children and adolescents in Uganda, August 2024–January 2025

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Background: While Mpox has historically affected children in Central Africa more severely, recent outbreaks have shown varying epidemiological patterns across other regions. Our study aimed to describe the epidemiology, clinical features, severity, and outcomes of Mpox in children and adolescents in Uganda from August 2024 to January 2025.

Methods: We conducted a cross-sectional study among participants aged 0-17 with polymerase chain reaction (PCR)-confirmed Mpox. We reviewed medical records of all case-patients who received care from mpox treatment units in eight high-burden districts during the study. Data were collected on demographics, time to care-seeking, and caretaker occupation. Mpox severity was assessed using a standardized Mpox severity scoring system, and multivariable logistic regression was employed to identify factors associated with severe disease.

Results: We line-listed 160 cases: 51% were female; median (interquartile range) age was 8 (2-12) years. Eighty-nine (56%) were school-going children, and the case fatality rate was 3%. The majority (90%) were hospitalized but did not require intensive care. The median hospital stay was 5 (4–7) days. Most reported symptoms were rash (100%), fever (65%) and headache (27%). Lesions appeared mostly on the head/neck (86%), chest/abdomen (77%), and lower limbs (69%). Household (50%) and school (36%) were common exposure sources. Eighty (50%) case-patients experienced severe disease. Duration of hospital stay ranged from 4-7 days; 13 (8.2%) case-patients required intensive care and 3 (1.8%) died. Children U5 had higher odds of developing severe Mpox (adjusted odds ratio [aOR]=7.7, 95%CI: 2.1-28) than those ≥5 years. Care-seeking after 14 days was associated with higher odds of severity (aOR=15, 95%CI: 1.4-17).

Conclusions: Household and school exposures were key drivers of mpox transmission. Children U5 and delayed care seeking increased severity. Early detection and targeted interventions in homes and schools could reduce mpox-related morbidity and mortality.

THPEM003

Serosurveillance of immune response to mpox among men who have sex with men in Hong Kong

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Background: Monkeypox (mpox) has emerged as a global public health emergency of international concern since 2022, with the worldwide clade II mpox outbreak primarily affected men who have sex with men (MSM). In Hong Kong, there have been a total of 72 mpox cases to date, and free voluntary mpox vaccination with MVA-BN was offered to MSM with high-risk sexual behaviours. This study aimed to assess the durability of immune response to mpox after vaccination and the prevalence of asymptomatic mpox infection among MSM.

Methods: A cross-sectional mpox serosurvey was conducted between February and September 2024. Consenting MSM self-administered an online questionnaire on socio-demographics, smallpox and mpox vaccination history, sexual behaviours, history of sexually transmitted infections (STI) and mpox diagnosis. Blood samples were collected for the detection of antibody response against mpox virus (MPXV) A35 protein by ELISA.

Results: Totally 184 MSM completed the questionnaire and provided blood samples for immunological measurement of anti-A35R MPXV IgG. Among them, the median age was 32 years (interquartile range 28-39), 12 (6.5%) were living with HIV, and 26 (14.1%) had received previous smallpox vaccination. Overall, 68 (37.0%) were unvaccinated, 20 (10.9%) had received one MVA-BN vaccine dose, and 96 (52.2%) had received two doses. MSM who were currently taking PrEP (odds ratio [OR] 3.05; 95% confidence interval [CI] 1.41-6.61), reported ≥5 sexual partners (OR 2.46; 95% CI 1.33-4.55), engaged in group sex (OR 2.16; 95% CI 1.16-4.03), and diagnosed with STI in the past 6 months (OR 3.41; 95% CI 1.23-9.42) were more likely to be vaccinated (all $P<0.05$). Regardless of prior smallpox vaccination status, a decline in seropositivity for anti-A35R MPVX IgG from 36.3% (by 3-6 months postvaccination) to 26.9% (over 12 months) was observed among 116 MVA-BN vaccinees. Serological diagnosis of asymptomatic mpox infection was low, only three (4.4%, N=68) unvaccinated MSM demonstrated antibody response against MPVX.

Conclusions: The waning of immunity over time indicating that antibody response induced by mpox vaccine are short-lived and a booster dose may be needed.
Despite limited number of undiagnosed mpox infections, continuous serosurveillance would be essential for assessing transmission risk in the community.

THPEM004

Peer-driven mpox interventions: enhancing awareness, case detection, and vaccination among key populations in Kampala

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Background: The current Mpox outbreak in Uganda has disproportionately affected Key and Priority Populations (KP/PP), especially sex workers, their clients, and people living with HIV. Although the Ministry of Health and partners implemented key measures such as enhanced surveillance, case investigations, and risk communication, these interventions initially failed to address the specific needs of KP/PP.
To fill this gap, the AIDS Control Program-KP/STI unit and its partners developed guidelines for integrating Mpox into HIV/KP programming.
As part of this effort, a three-month pilot was conducted in Kampala by the Most at Risk Population Initiative (MARPI), using trained peers and health workers to support interventions.
Description: As part of the response, 40 MARPI staff were trained as trainers of trainers over five days, 40 KP-led CSOs in Kampala were engaged in a one-day session, and 150 peers were trained over three days on Mpox symptoms, case identification, and risk communication. Additionally, 150 community gatekeepers (e.g., brothel owners, bar managers, and local leaders) received a one-day orientation.
From the trained peers, 30 were deployed across Kampala's five divisions, supported by two supervisors, to assist national response teams in the Mpox response.
Lessons learned: To strengthen the Mpox response among Key Populations (KPs) in Kampala, health teams and peer educators were formally introduced to Division Incident Commanders within KCCA . They actively participated in division-level coordination meetings to address local risks and align strategies. Peer-led outreach targeted hotspot areas frequented KP/PPs, reaching 131,707 individuals with risk communication messages.
This approach improved case detection, reporting, and contact tracing, with 746 suspected cases identified of which 598 tested positive for Mpox.
Additionally, the KP team supported the successful vaccination of 10,000 KP/PPs and contributed to increased community alerts and response efforts.
Conclusions/Next steps: Peer-led Mpox interventions in Kampala have significantly improved community engagement, case detection, vaccination, and awareness among Key Populations.
The next Steps will include: Strengthen coordination with local authorities, expand peer-led outreach and vaccination to other districts, Improve access to accurate information and services, address stigma and cultural misconceptions, ensure consistent supply of protective materials and monitor and adapt interventions based on community feedback

THPEM005

From clinics to communities; a social ecological analysis of mpox related-stigma in Nigeria

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Background: Mpox related stigma contributes to delayed treatment and worsens health outcomes. In Nigeria, intersecting stigmas rooted in social identities amplify and hinder access to care.
The VERDI Nigeria study investigates how these intersections drive health inequities among individuals affected by mpox in four high burden states in Nigeria.
Methods: Rapid qualitative method was implored in this study from May-October 2024. Thirteen in-depth interviews (IDIs), 12 focus group discussions (FGDs), and 9 key informant interviews (KIIs) amongst healthcare workers (HCWs) providing care to mpox patients, adolescents, adults, pregnant women and caregivers of children diagnosed with mpox was conducted in the Federal Capital Territory (FCT), Bayelsa, Rivers, and Lagos States. Semi-structured interview guides were used to explore lived experiences of the participants.
Qualitative data was analysed using the Rapid Assessment Procedure (RAP) sheets guided by the social ecological model (SEM) and intersectionality framework.
Results: Of the 79 participants ; 58.2% (46) were female, 48 (60.7%) were HCWs with an average of nine years of experience in infectious disease units.
Findings revealed that mpox-related stigma was experienced at multiple levels- ranging from intrapersonal and interpersonal to clinic and community settings as seen in table 1.

		Social Identities				
Social Ecological Levels	Types of Stigma Experienced	Category of Participants	Gender	Types of Residence	Occupation	Quotes
		Adolescent	Female	Peri-urban	Student	„I was depressed, became an introvert. It was like I should just die, because everyone avoided me.“_IDI_Lagos
Intrapersonal (individual characteristics)	Internalised stigma Shame and helplessness led to isolation	Healthcare worker	Female	Urban	Infectious disease physician	„Other healthcare workers make discriminatory statement toward me because I work at the Infectious disease unit and treat mpox patients. As a result, I've stopped going to other departments in the hospital. I just come straight to my office here in the infectious disease unit, so I do not see anyone or interact with others.“_KII_FCT
Interpersonal (peers, social networks & relationships)	Enacted stigma Stigma was manifested as discrimination from family, friends, and co-workers, leading to avoidance and fear of infection	Healthcare worker	NA	NA	Nurse (infectious disease unit)	„Once other HCWs see you, they say, you people should not come and infect us oh. Go to your department.“_FGD_FCT „People are afraid of us because we work in the Infectious Disease Unit.“_FGD_Bayelsa
Clinic Level (behaviours within health facilities)	Anticipated stigma Negative experiences with HCWs caused hesitation in seeking health care	Pregnant woman	Female	Rural	NA	„It was a terrible experience having mpox and being pregnant. The nurses treated me like I deserved mpox, segregated me and delayed treatment.I got tired and resorted to alternative medicine.”_IDI_Lagos
		Caregiver	Female	Rural	NA	„Getting to the hospital where they treat mpox patients was difficult due to the distance, and upon arrival, HCWs blamed us, saying it was our fault that we didn't take care of our children well which is why they got mpox.“_FGD_Lagos
Community Level (broader societal beliefs and practices)	Enacted and Anticipated stigma Differential treatment from neighbours and others led to perceived transgression	Adult	Female	Rural	NA	„I still feel stigmatized about mpox, even though I have been healed and better. Some of my neighbours still restrict their children from coming to me and playing with my children.“_IDI_Rivers
		Healthcare worker	Adult	Rural	NA	„The street where the index case lived faced stigma—people vacated their houses until health officials stayed there for months to reassure the community.“_FGD_Lagos

Table 1: Experiences of Mpox-Related Stigma Across Social Ecological Levels and Social Identities

NA- not applicable, this table summarizes the experiences of stigma at different social ecological levels, highlighting how intersecting social identities such as gender, occupation, and socio class shaped these experiences.

Conclusions: Intersecting stigmas create barriers to healthcare for mpox patients, worsening health and social disparities. Effective stigma-reduction strategies must be context-specific targeted at community, clinic, interpersonal, and intrapersonal levels by enhancing social support and improving health system practices.

Mpox E-posters

EP1109

Genetic evolution and mutation patterns in mpox virus lineages: a systematic review of genomic surveillance studies

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Background: Recent global outbreaks of mpox (monkeypox) have reignited global concern over its potential for sustained human-to-human transmission and cross-border spread. The 2022–2023 global outbreak, characterized by widespread transmission in non-endemic regions, has underscored the critical need for enhanced genomic surveillance. Understanding the genetic evolution and mutation dynamics of mpox virus lineages is essential for anticipating changes in virulence, transmissibility, and resistance to treatment.
Methods: We conducted a systematic review of genomic surveillance studies on mpox virus, covering publications from January 2017 to December 2024. We searched PubMed, Scopus, and GISAID using keywords such as "monkeypox," "mpox," "genomic surveillance," "mutation," and "phylogenetics." Inclusion criteria were: (1) studies presenting original genomic data (full or partial sequences); (2) studies performing analysis of mutation patterns, lineage evolution, or phylogenetics; and (3) studies based on human-derived samples. We excluded (1) purely theoretical or in silico studies lacking sequence data; (2) case reports without genomic analysis; (3) studies based solely on animal or environmental samples; and (4) reviews, editorials, or commentaries. Data were extracted on study location, lineage classification, mutation types, and phylogenetic methods.
Results: Of 73 studies screened, 28 met the criteria. Most analyzed clade IIb, especially the B.1 lineage linked to the 2022–2023 outbreak. Recurrent mutations were found in replication (F13L, E9L) and immune-related genes (B21R, B19R), with frequent APOBEC3-related signatures suggesting host-driven evolution. Phylogenetic analyses revealed increasing B.1 diversification and region-specific sublineages. Some novel mutations were noted, though none were conclusively linked to greater severity or vaccine resistance.
Conclusions: Mpox virus is undergoing genetic evolution, with emerging mutations suggesting possible adaptation to human transmission. Continued genomic surveillance is essential to track these changes and guide vaccine development, diagnostics, and outbreak response. Further studies linking genomic data with clinical outcomes are needed to clarify public health impacts.

EP1110

Neonatal mpox in Nigeria: a case of transplacental versus postnatal transmission

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Background: Little information exists in the literature concerning the burden of mpox infection in the newborn population since the detection of the first case of human mpox over five decades ago.
Methods: A case study of a male full-term newborn who presented on the 29th of January, 2025, at the University of Port Harcourt Teaching Hospital, Nigeria, with suspected mpox. He was 4 days old on the day of his first skin eruption.
Results: The neonate presented with a febrile vesiculo-pustular rash syndrome characterized by a centrifugal pattern of distribution (marked on the scalp, face, neck, and limbs and sparse on the thorax and abdomen). There was a history of similar skin lesions in both parents. Vesicular fluid polymerase chain reaction testing done at the reference molecular laboratory, Rivers State University Teaching Hospital, confirmed the presence of monkeypox virus (MPXV) DNA and was negative for varicella-zoster virus. Despite the diagnosis of mpox in the early neonatal period with the high likelihood of a transplacental route of transmission, the possibility of a postnatal transmission could not be entirely ruled out. In line with the Nigeria Center for Disease Control and Prevention case management guidelines, he was optimized on supportive care, including nutrition, skin care, careful attention to fluid status and fluid management, blood transfusion, and targeted antibiotics by a multidisciplinary team of neonatologists, infectious diseases specialists, dermatologists and other experts in clinical medicine. While on admission, he developed bacterial skin co-infection with methicillin-resistant Staphylococcus aureus, prolonged illness, and eventually recovered from the illness following a delayed time to resolution of skin lesion of 48 days and a high rash burden (more than 100 lesions).
Conclusions: Neonatal mpox infection is rare and could lead to prolonged morbidity and mortality. Clinicians should always maintain a high index of suspicion and consider mpox in the differential diagnosis of a neonatal vesicular rash, particularly if there is a history of similar rash in the family and an endemic region, as early disease recognition and early treatment are associated with improved outcomes. Further studies are needed to better understand the transmission routes of the monkeypox virus in the newborn population.

EP1111

Screening of MPXV, VZV, HSV-1, and HSV-2 causing mucocutaneous vesicular rashes by multiplex HRM-PCR

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Background: Since May 2022, over 27,000 monkeypox (MPOX) cases have been reported in Europe. In the Democratic Republic of Congo (DRC), MPOX has become a public health emergency, with 19,667 suspected cases and 575 deaths reported in 2024. The disease presents diagnostic challenges due to its similarity to infections caused by herpes simplex virus (HSV-1, HSV-2) and varicella-zoster virus (VZV). AFYIA Diagnostics developed the DIRASH kit, a qualitative screening test that simultaneously detects these viruses.

Methods: The DIRASH kit is a multiplex High-Resolution Melting (HRM) assay designed for the simultaneous detection of MPXV, HSV-1, HSV-2, and VZV. The DISoft™ software accompanying the kit automates the analysis and interpretation of HRM profiles. Its development resulted from a collaboration between researchers in France and the DRC, involving three clinical studies: one at CHU Montpellier (Jan 2021 - Dec 2022) during the clade II epidemic, and two at INRB in Kinshasa (Dec 2022 - Jun 2024) focusing on clades Ia and Ib.

Results: A total of 724 samples were retrospectively analyzed using the DIRASH kit and compared to the reference technology from the partner laboratory. In Montpellier, the DIRASH kit demonstrated 100% sensitivity for MPXV, 94% for VZV, and 98% for HSV-1 and HSV-2, when compared to the CHU's kit. At INRB, DIRASH showed 98% sensitivity for MPXV and 93% for VZV, in comparison with the simplex reference technology used at INRB, confirming the DIRASH kit's capability to detect multiple clades. Additionally, the kit identified previously undiagnosed co-infections (MPXV/HSV-1, MPXV/HSV-2, MPXV/VZV) with 100% specificity.

Conclusions: The DIRASH kit is a rapid, reliable, low-cost multiplex test with automated result interpretation. Its ability to detect viruses causing mucocutaneous vesicular eruptions is crucial for differential diagnosis in both the DRC and non-endemic countries, strengthening diagnostic capabilities and supporting epidemic control efforts.

EP1112

Role of fisherfolk and commercial sex workers in transmission of mpox during the early phase of the mpox outbreak in Nakasongola District, Uganda, September-November 2024

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Background: The Uganda Ministry of Health (MoH) declared the mpox outbreak on August 2, 2024, after two confirmed mpox cases were reported in Kasese District. On September 9, 2024, Nakasongola District registered its first confirmed mpox case. We described the epidemiological characteristics and transmission dynamics of confirmed mpox cases in Nakasongola District to inform interventions for other mpox outbreaks.

Methods: We investigated mpox cases by performing in-person structured interviews to obtain data on sociodemographic characteristics, exposures, signs, symptoms and contacts. We reported median age, proportions of the cases by age and occupation and calculated the attack rate of key demographics by determining the number of cases per population per 100,000. We constructed a transmission tree using Chainchecker™ application

Results: Between September 9 and November 28, 2024, a total of 66 confirmed cases were reported in Nakasongola. The majority of cases were male (n=36; 55%), with 49 cases (74%) occurring in individuals aged ≥18 years. The median age of the confirmed cases was 28 years. Nineteen out of 66 (29%) were fisherfolk and 7/66 (11%) commercial sex workers (CSWs). Attack rates were similar for males (28/100,000) and females (27/100,000), with the highest in those aged ≥18 years (41/100,000). Lwampanga Town Council had the highest attack rate (266/100,000). Five transmission clusters associated with sexual contact were identified. Fisherfolk and CSWs were sources of propagation and acquisition of mpox in three clusters.

Conclusions: CSWs played a key role in transmission and both fisherfolk and CSWs were at higher risk of acquiring mpox. Prompt isolation of mpox cases, along with targeted risk communication and community engagement efforts directed at these high-risk groups in the most affected town council may help prevent further spread to other sub-counties and town councils.

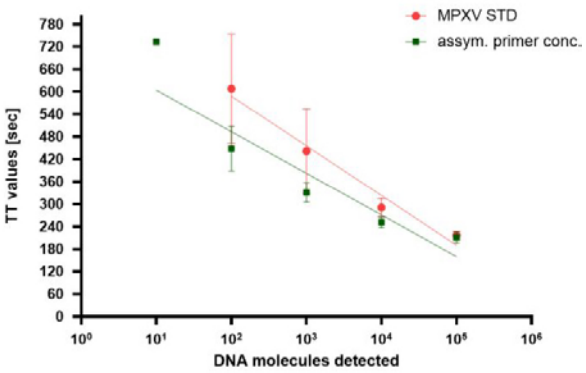
EP1113

A new IOT device for Rapid molecular testing for MPOX

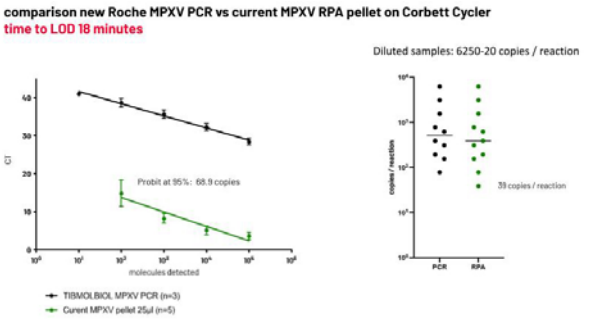
F. Arrey Takubetang[1], J. Bueno Alvarez[1], M. Szczygiel[1], Z. Kowalewska[1], R. Maja Kobialka[2], A. Ceruti[2], A. Abd El Wahed[2], M. Diebold[1], C. Wahnes[1], M. Weidmann[1,3]
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Background: There is a need for diagnostics that follow the suggestions put forth by the Lancet commission report on diagnostics (Fleming et al., 2021) and the REASSURED criteria (Land et al., 2019) not only for the African continent; but also worldwide. This is especially true for MPOX.

Methods: An easy to use platform that provides cloud based analysis of real time molecular amplification results to the user was developed. The biochemistry of choice, recombinase polymerase amplification (RPA) for monkeypox DNA had already been developed (Davi SD et al. 2019). To adapt the MPXV RPA to the minoo device asymmetric amplification was trialed.



Results: In order to assess the performance of the RPA pellet developed by midge medical the MPXV RPA was tested with this new pellet on a Corbett cycler in comparison to the TIBMOLBIOL MPXV PCR kit. A 25µl MPXV-RPA pellet reaction on the Corbett cycler yielded an analytical sensitivity of 10^2 copies detected per reaction and a probit 95% sensitivity of about 70 copies was calculated (n=5). When testing a 2-fold dilution series of the DNA standard ranging from 6250 - 20 copies / reaction 78 copies/reaction were detected by PCR and 39 copies/ reaction by the 25µl MPXV-RPA pellet.



Conclusions: The new asymmetric MPXV RPA pellet will now be fully adapted to the minoo device and should provide a highly sensitive test suitable for point of need testing in infrastructure poor settings but also for transmission control measures implemented to control spread such as airport checks.

EP1114

Mpox diagnosis and vaccination among gay and other men who have sex with men and transgender women in Brazil: results from a large nationwide online survey

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Background: Mpox emerged as a global public health concern in 2022, disproportionately affecting men who have sex with men (MSM) and transgender women (TGW). Understanding the epidemiology and clinical characteristics of those reporting mpox diagnosis and vaccination is crucial for effective public health responses, particularly in resource-limited settings like Brazil.

Methods: We conducted a large-scale, cross-sectional online survey among MSM and TGW aged 18+ years in Brazil, recruited via dating apps and social media platforms (August-December 2024). Participants provided data on socio-demographics, sexual behavior, mpox diagnosis history, and mpox vaccination status.

We compared characteristics of participants reporting previous mpox diagnosis (yes/no) and mpox vaccination (yes/no) using chi-square tests.

Results: Among 7,043 participants (MSM: 99%; 18% aged 18-30 years; 24% secondary education or lower), 2.2% (n=152) reported previous mpox diagnosis and 5.1% (n=358) reported receiving mpox vaccine (1 dose: 46.1%; 2 doses: 47.8%; 2+ doses: 6.1%).

Of those diagnosed, 7.9% required hospitalization, 2.4% were not followed up by any health service, 7.9% reported engaging in sexual activity with mpox and 90.8% adhered to isolation.

More participants diagnosed with mpox (vs not diagnosed) reported higher education (post-secondary education: 84% vs 76%, p=0.016), self-identified as gay (88% vs 81%, p=0.045), living in a state capital (88% vs 77%, p=0.002), living with HIV (51% vs 26%; p<0.001), currently use PrEP (66% vs 29%; p<0.001), 5+ sexual partners in past 6 months (71% vs 39%, p<0.001), chemsex in past 6 months (57% vs 29%; p<0.001) and any STI in past 6 months (41% vs 14%; p<0.001).

More participants reporting mpox vaccination (vs not vaccinated) were older (30+ years: 86% vs 82%; p=0.05), self-identified as White (63% vs 56%; p<0.001), reported living with HIV (45% vs 25%, p<0.001), currently use PrEP (50% vs 29%; p<0.001), 5+ sexual partners in the last 6 months (51% vs 39%, p<0.001), chemsex in past 6 months (41% vs 30%; p<0.001) and any STI in past 6 months (20% vs 15%; p=0.03).

Conclusions: Mpox vaccination rates remain low among MSM and TGW in Brazil. Tailored strategies are needed to improve both vaccination coverage and clinical support for those affected and in higher vulnerability to mpox.

EP1115

Contact tracing and close relationship on handling 2023 mpox outbreak to MSM population in Jakarta, Indonesia

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Background: Mpox re-emerged as an outbreak in October 2023, with 59 confirmed cases in Indonesia, including 42 in Jakarta, between October 13 and November 26. Men who have sex with men (MSM), particularly those living with HIV, were identified as high-risk due to high-risk sexual contact transmission. In response to this, the Indonesian Ministry of Health and the Jakarta Provincial Health Office collaborated with community organization for MSM living with HIV to mitigate the outbreak.

This collaboration successfully curbed the transmission rate in Jakarta in December 2, 2023. Research on Mpox in Indonesia has focused mainly on clinical aspects, with limited exploration of public health responses.

This paper tried to explore the community-based response to Mpox.

Methods: We conducted a qualitative interview-based investigation to explore Mpox outbreak responses in Indonesia. Using respondent-driven sampling, we interviewed 21 participants, including vaccine recipients, NGOs, government officials, and community organizations. Interviews were conducted online and in-person between June and September 2024. Data were analyzed using an inductive thematic analysis approach.

Results: Community involvement in handling the Mpox outbreak started in identifying Mpox cases. The Indonesian Health Ministry and Jakarta Health Agency collaborated with community organizations to determine the most effective methods of communication and to identify necessary actions.

First, health workers and outreach workers were able to identify individuals at-risk through the existing HIV service system. They utilized routine visits for antiretroviral therapy (ART) and pre-exposure prophylaxis (PrEP) to share Mpox information and testing.

Second, drawing from COVID-19 pandemic, Mpox contact tracing efforts employed rapid response mechanisms. Combined with the HIV service system, outreach workers facilitated safe disclosure and offer partner notification.

These made the overall healthcare experience more familiar. Last, the close relationship between outreach workers and health workers reduced the anxiety for accessing Mpox services, made them willing to disclose their health status and previous risky sexual behavior.

Conclusions: Community organization for MSM living with HIV leads to an effective response. Outreach workers and community organizations identified and reached at-risk individuals for Mpox infection, utilizing the existing HIV system, contact tracing, and the established relationship with health workers at primary healthcare.

EP1116

Otherness and blame: a comparative news media analysis of mpox outbreaks in Italy, Nigeria and the UK

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Background: In 2022, a global Clade IIb mpox outbreak emerged, predominantly affecting Gay, Bisexual and other Men-who-have-sex-with-men (GBMSM). In 2024, Clade IIb outbreaks continued in the general population in West Africa and a new Clade I variant fuelled an ongoing epidemic in East and Central Africa. News media significantly influences public discourse during outbreaks. We compared Italian, Nigerian and UK news media representations of mpox across these different epidemiological and cultural contexts.

Methods: A total of 204 news articles, published from May 2022 to December 2023 in nine national newspapers across Italy, Nigeria, and the UK, were analysed. Research teams in each country conducted thematic analysis focusing on exclusionary narratives – specifically, attribution of blame and reinforcement of discriminatory cultural, sexual, and geographical boundaries.

Results: Italian and UK media frequently emphasised the African origin of mpox, reinforcing racist narratives that associate the Global South with contagion. Furthermore, the sexual behaviour of GBMSM was often homogenised and stereotyped, reflecting the stigmatising narratives and responsibilisation previously observed during the HIV pandemic. In contrast, Nigerian media rarely referenced GBMSM communities, and focused blame on rural populations or consumption of bushmeat. Additionally, religious and conspiratorial narratives framing mpox as either moral punishment or political manipulation were also prevalent in Nigeria. Across all three countries, first-hand accounts from individuals with lived experiences of mpox were notably absent from media content.

Conclusions: Exclusionary narratives have dominated news media coverage of mpox in both endemic and non-endemic countries. These narratives are deeply rooted in colonial legacies and historical stigmatisation associated with HIV, illustrating the persistent link between

contagion and notions of otherness in public discourse. Given the media's influence on global public health, there is an urgent need for a more inclusive, respectful, evidence-based and historically-informed when reporting future outbreaks to mitigate harm to marginalised and other affected populations.

EP1117

Rapid containment of an mpox outbreak, Uganda, Masindi prison, September-November-October 2024

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Background: We set off to investigate and contain a suspected Mpox outbreak in a high-risk prison setting. We focused in Masindi Prison, a high-security facility in Western Uganda, where overcrowding and poor hygiene posed a heightened risk for disease transmission.
The investigation aimed to identify the soucre and scope as well as generate evidence to strengthen surveillance to inform future outbreak preparedness and response in correctional settings.
Description: The response was implemented between Octover and November 2024. The prison was operating at over 150% capacity, with limited sanitation and inadequate space, making it highly vulnerable to disease spread. The target population included incarcerated individuals and prison staff.
A multi-sectoral structure coordinated by the Ministry of Health, Uganda Prisons Service, and Central Public Health Laboratories led the response.
We did retrospective case finding, clinical evaluation, laboratory confirmation through PCR testing, daily symptom screening, contact tracing, isolation of cases, improved hygiene and sanitation practices, restriction of inmate movement, risk communication, and training of health staff in Mpox identification and infection prevention protocols.
Lessons learned: The outbreak involved 28 cases, including two laboratory-confirmed, linked to detainees transferred from a community with suspected Mpox transmission. Misdiagnosis as chickenpox, combined with overcrowding and poor hygiene, enabled continued spread.
Once confirmed, urgent interventions were implemented including isolation of cases, daily symptom screening, mandatory bathing and disinfection, movement restrictions, onsite sample collection with rapid transport, risk communication for inmates and staff, and training for health workers.
These measures halted transmission, with no new cases after October and no deaths recorded. The response underscored the need for early detection, mandatory admission screening, and timely application of simple infection control practices, even in overcrowded, resource-limited settings. Multi-sectoral coordination was essential for rapid diagnosis, case management, and effective communication.
Conclusions/Next steps: This outbreak demonstrated that Mpox can be effectively controlled in high-risk settings through basic public health interventions when applied quickly and in a coordinated manner. Integrating correctional facilities into national disease surveillance systems and enforcing standardized screening protocols for new detainees are essential.
Future efforts should focus on strengthening prison health infrastructure and institutionalizing continuous infection prevention training to ensure readiness for emerging infectious threats.

EP1118

Stigma and coping mechanisms among mpox survivors in Kampala Metropolitan Area, August 2024–January 2025

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Background: On July 24, 2024, Uganda confirmed its first cases of mpox and has since had a gradual increase in the number of mpox cases as well as recoveries/ survivors. We conducted this study to determine the prevalence of stigma, associated factors and coping mechanisms among mpox survivors in the Kampala metropolitan area.
Methods: We conducted a cross-sectional study among mpox survivors that were diagnosed, treated and discharged during the first 6 months of the outbreak in Kampala metropolitan area. We used a mixed study approach to obtain stigma experiences using a structured interview questionnaire with an mpox stigma scale modified from the HIV stigma scale. We used an in-depth interview guide to explore coping mechanisms of survivors, collected data until saturation, coded and generated themes.
Results: We collected data from 346 participants of median age of 30 years (IQR, 25-30). Most (57%) were males, married (44%), attained secondary education (45%) and were business men/women (35%). The majority of the participants (66%) were admitted in hospital for one week or less. The prevalence of sigma was at 25% in this study. The majority of the participants 283 (82%) reported that their employment was negatively affected by having mpox. Most of the participants, 216 (62%) reported that they felt people with mpox were treated like outcasts. The prevalence of stigma was less in females compared to males (aPR=0.64, 95% CI: 0.44 – 0.92). A longer hospital stay was associated with an increased likelihood of stigma (aPR = 1.9, 95% CI: 1.3 –2.9). Participants utilized physical, psychological and social coping mechanisms towards mpox stigma.
Conclusions: The prevalence of mpox related stigma was low, mostly among men and was associated with increased hospital length of stay. Individuals applied social, psychological and physical mechanisms of coping. These coping mechanisms of mpox survivors underscore the relevancy of having a multidisciplinary approach to tackling stigma. We recommend further studies to evaluate the long-term outcome of such interventions.

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