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Knowledge Translation: the bridging function of Cochrane Rehabilitation

Running Title: Knowledge Translation in Cochrane Rehabilitation

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Abstract

Cochrane Rehabilitation is aimed to ensure that all rehabilitation professionals can apply Evidence Based Clinical Practice and take decisions according to the best and most appropriate evidence in this specific field, combining the best available evidence as gathered by high quality Cochrane systematic reviews, with their own clinical expertise and the values of patients. This mission can be pursued through Knowledge Translation. The aim of this paper is to shortly present what Knowledge Translation is, how and why Cochrane (previously known as Cochrane Collaboration) is trying to reorganize itself in light of Knowledge Translation, and the relevance that this process has for Cochrane Rehabilitation and in the end for the whole world of Rehabilitation.

It is well known how it is difficult to effectively apply in everyday life what we would like to do and to apply the scientific knowledge in the clinical field: this is called the “know-do gap”. In the field of Evidence Based Medicine, where Cochrane belongs, it has been proven that high quality evidence is not consistently applied in practice. A solution to these problems is the so-called “Knowledge Translation”. In this context, Cochrane Rehabilitation is organized to provide the best possible Knowledge Translation in both directions (bridging function), obviously toward the world of rehabilitation (spreading reviews), but also to the Cochrane community (production of reviews significant for rehabilitation). Cochrane is now strongly pushing to improve its KT activities, and this creates a strong base for Cochrane Rehabilitation work, focused not only on spreading the evidence, but also on improving its production to make it more meaningful for the world of rehabilitation.

Keywords: Knowledge Translation, Evidence Based Clinical Practice, Cochrane Rehabilitation, Health Care System.

Abbreviations:

- Knowledge Translation (KT)
- World Health Organization (WHO)

Introduction

"Cochrane", better known with the former name "Cochrane Collaboration", is the global organization whose aim is to gather the best possible evidence from the literature and convey it to all the health professionals, decision makers and the public with the goal to improve health care at all levels. Cochrane Rehabilitation has been recently started as a new Field of Cochrane, to create a bridge between Cochrane and the world of Rehabilitation, and strengthen the evidence gathering process and knowledge in our field.[1-4] Cochrane Rehabilitation is aimed to ensure that all rehabilitation professionals can apply Evidence Based Clinical Practice, combining the best available evidence as gathered by high quality Cochrane systematic reviews, with their own clinical expertise and patients' values and preferences. The vision is a world where decision makers will be able to make decisions according to the best and most appropriate evidence in this specific field. Cochrane Rehabilitation wants also to improve the methods for evidence synthesis, facing the multiple challenges of Randomised Controlled Trials (RCTs) and consequently Cochrane reviews in our fields, to make their results face the needs of disabled people and coherent with daily clinical practice in rehabilitation.[5] According to Cochrane, these vision and mission can be pursued through Knowledge Translation (KT). The aim of this paper is to shortly present:

- what KT is,
- how and why Cochrane is trying to reorganize itself in light of KT, and
- the relevance that this process has for Cochrane Rehabilitation and in the end for the whole world of Rehabilitation.

The know-do gap

It is well known how it is difficult to effectively apply in everyday life what we would like to do. This is even truer for the extent to which scientific knowledge is applied in the clinical field: this is called the "know-do gap". In Evidence Based Clinical Practice, where Cochrane belongs, it has been proven that high quality evidence is not consistently applied in practice.[6] Some widely known

examples in clinical practice include the over-prescription of antibiotics in children with upper respiratory tract symptoms,[7] but also the under-prescription of statins post-stroke.[8] There are examples also in health system policies. The paper showing that evidence was not frequently used by the World Health Organization (WHO) in their statements[9] made quite some noise worldwide: this has led to a change that is clearly evident in the last WHO Rehabilitation guidelines.[10]

Some reasons have been listed for this "know-do gap", and they include the fact that evidence is usually not focused on the end-users:[11] in fact, usually it is mainly epidemiologically and methodologically focused, and details on interventions and settings are missing. Moreover, on the part of the end-user, a lack of knowledge management skills and infrastructures is quite frequent.[12] This is true at the various levels: macro-level in the health care system and organization (lack of finance, equipment), meso-level in the health care teams (standards of care definition and time management) and last but not least at the micro-level, in terms of individual health care professionals (volume of and access to research evidence, time to read, and skills to appraise, understand and apply research evidence).[13]

Knowledge Translation

A solution to these problems is the so-called "Knowledge Translation" that has been defined by the Canadian Institutes of Health Research[14] as "a dynamic and interactive process that includes the synthesis, dissemination, exchange, and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system". Alternative terms with the same meaning include: dissemination and implementation, implementation science, research use, knowledge transfer and uptake/exchange.[15]

The process to move from knowledge to action has been thoroughly described by Graham[16] and can be divided in two steps, the "knowledge creation phase" and the "action cycle". The first one is the better known and understood by scientists and clinicians. It includes: knowledge inquiry through the primary research studies (in case of Cochrane, Randomised Controlled Trials); knowledge

synthesis through the secondary research studies (systematic reviews and meta-analysis); and knowledge tools/products like guidelines, algorithms, messages for end-users etc. In this perspective Clinical Guidelines are to be interpreted as spreading tools. Cochrane Rehabilitation will particularly be involved in this last phase, mainly producing correct messages for the end-users through different media either scientific (journals, meetings, workshops, educational initiatives) or social (website, Twitter, Facebook, YouTube). Much less known by clinicians is the so-called "action cycle". In this perspective KT concretizes in specific projects to facilitate/allow the proper application of knowledge: these projects have to be adapted to the general context (micro – individuals and/or local organizations; meso – helath organizations; macro – countries) as well as to the specific context (personal/social factors). The stages proposed include: identify the problem; identify, review, select the knowledge; adapt knowledge to local context; access barriers – facilitation to knowledge use; select, tailor, implement interventions; monitor knowledge use; evaluate outcomes, and sustain knowledge use.

The Knowledge Translation Strategy and Framework of Cochrane

According to the Strategy to 2020's fundamental commitment to the dissemination, use and impact of Cochrane evidence[17] KT has been recognised as essential in achieving Cochrane's vision and maximising the benefit of the work of Cochrane contributors.[18] After a long process and preliminary work,[19,20] Cochrane has produced a KT Strategy[17] to set out a framework for KT in Cochrane, demonstrating the breadth and depth of the activities that would enable Cochrane to become a KT-centred organization. The aim is to make systematic and coordinate the excellent KT activities already going on in Cochrane. The major audience to be served has been identified in: consumers and the public; practitioners; policy-makers and healthcare managers; researchers and research funders. The Cochrane KT Strategy describes six key themes:[18]

1. Prioritization and co-production of Cochrane reviews: producing reviews which meet the needs of our users.
2. Packaging, push and support implementation: ensuring our users receive and can act on our reviews and products.
3. Facilitating pull: growing our users' capacity to find and use our reviews.
4. Exchange: engaging with our users to support their evidence informed decision making.
5. Improving climate: advocating for evidence informed health decision-making.
6. Sustainable KT Processes: building a sustainable infrastructure for knowledge translation.

A Cochrane KT Framework[21] has been approved in April 2017. The framework lays out an ambitious strategy to develop Cochrane as a KT-centred organisation, and importantly it places very strong emphasis on the importance of the Cochrane community in achieving such developments. A KT Advisory Group of 12 experts (including the Director of Cochrane Rehabilitation – Stefano Negrini) has been created bringing together leaders in Cochrane who have an interest and experience in KT to advise on effective implementation and leadership of this KT Framework.[21] This Advisory Group will work in the next 18-24 months to help the transformation of Cochrane.

In all this process Cochrane is moving to end-up with two main types of Groups: the one mainly engaged in Knowledge Production and Methodology (Review Groups and Method Groups) and the ones mainly engaged in Knowledge Translation (Centres, with a regional focus, and Fields, with a world-wide topic focus). Obviously single groups can have (and some already have) both functions; moreover the interaction among the groups will increase, since Knowledge Translation can be efficacious only if Knowledge Production already takes into accounts the final spreading.

Knowledge Translation and Cochrane Rehabilitation

As stated above, KT is the core aim of Fields, like Cochrane Rehabilitation. If we think of Cochrane Rehabilitation as a specific project of KT in our clinical world, we can easily see how all the points of the KT "action-cycle" correspond to what Cochrane Rehabilitation is doing and/or has planned to do in the next future (Table 1).

Cochrane Rehabilitation is organized to provide the best possible KT in both directions (bridging function),[3-5] obviously toward the world of rehabilitation (spreading reviews), but also to the Cochrane community (production of reviews significant for rehabilitation). The Director himself is in charge of the KT strategy, while the Coordinator is in charge of the Networking Strategy; then there are the following committees:

- Review Committee selects and tags all Cochrane Reviews relevant for rehabilitation creating the background for the work of all other Committees;
- Communication and Publication Committees spread Cochrane Reviews results to all the Rehabilitation community through social media and scientific instruments respectively (theme 2 of the Cochrane KT Strategy);
- Education Committee educates and trains rehabilitation professionals on evidence and review production (theme 3-5 of the Cochrane KT Strategy)
- Methodology Committee works on methodology in evidence production and gathering in rehabilitation (themes 1 and 4 of the Cochrane KT Strategy)

In this process Cochrane Rehabilitation must be cost-effective (theme 6 of the Cochrane KT Strategy).

It is also important to recognise that Cochrane Rehabilitation is not a Review Group, and as such has not the primary role of producing reviews, even if this could be done in specific circumstances. Nevertheless, Cochrane Rehabilitation has a key role to help Cochrane produce evidence significant for rehabilitation professionals: this is done mainly through the work of the Methodology Committee, but also helping in the prioritization process of Cochrane Review Groups, and providing rehabilitation expertise for specific reviews.

Conclusion

In our clinical world there is a general perception of the scarcity of evidence in rehabilitation; moreover, most of the evidence produced is considered not highly meaningful due to the many methodological problems typical of rehabilitation. Cochrane is now strongly pushing to improve its KT activities, and this creates a strong base for Cochrane Rehabilitation work, focused not only on spreading the evidence, but also on improving its production to make it more meaningful for the world of rehabilitation.

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Table 1. All the points of the Knowledge Translation "action-cycle" correspond to what Cochrane Rehabilitation is doing and/or has planned to do in the next future.

Action cycle	Cochrane Rehabilitation action	Product
Identify problem	Check the actual Cochrane Evidence relevant to Rehabilitation. Identify and help to solve the problems with evidence of the rehabilitation world.	Director: prioritization of future Cochrane Reviews with Cochrane Reviews Groups. Methodology Committee: surveys, discussion and position papers.
Adapt knowledge to local context	Comment Cochrane Reviews results for: • clinicians • students • politicians, to be informed from a rehabilitation perspective	Communication Committee: social media Pubblication Committee: Cochrane Corners in scientific journals, e-book
Access barriers – facilitation to knowledge use	Identify and collect all relevant Cochrane Reviews. Prepare brief clinical summaries. Diffuse the reviews. Develop skills and knowledge in end-users. Promote Evidence Based Clinical Practice.	Review Tagging Committee: identification of reviews. Communication Committee: web-site collection. Publication Committee: Cochrane Corners and e-book. Education Committee: courses.
Select, tailor, implement interventions	Adapt Cochrane material for rehabilitation professionals. Improve Cochrane methods to make them relevant to rehabilitation.	All Committees as presented above.
Monitor knowledge use	Check presence of Cochrane Reviews in Rehabilitation Guidelines and journals.	Under development with Cochrane Central.
Evaluate outcomes	Development of meaningful outcomes for the actions started.	Under development with Cochrane Central.
Sustain knowledge use	Support Evidence Based Clinical Practice in Rehabilitation.	Education Committee: courses.