

sorry state of affairs once again demonstrates the need for proper research management. Such need has been expressed in the past⁴ but adequate and integrated management of research is yet to be achieved.

WALTER HOLLAND

Professor of Public Health Medicine
UMDS—St Thomas's Campus, London SE1

Having just completed the writing of a history of the first 50 years of the Nuffield Provincial Hospitals Trust, I was interested in Dr Stephen Frankel's stimulating editorial in your December issue, especially so since it also has some relevance to the recent correspondence in the *Journal of Public Health Medicine* about health service research. My interest is because until the advent of the Health and Social Services Department on the scene, an event which was specially noted by Sir George Godber and Dr Richard Cohen in the publication commissioned by the Trust, *Portfolio for health*,¹ the Trust perhaps financed more of what has come to be known as "health services research", which included support for epidemiologists, than any other body.

During that period and indeed since, I have been struck by the record unearthed by my explorations for the History, which has been sobering to the extent that so much of the research sponsored and the findings published has gone unheeded. The current obsession with the "reforms" obscures a wealth of "indications" of how to improve the public health.

It is not my intention to comment in detail on Dr Frankel's observations even if (schooled by the

- 1 Frankel S. The epidemiology of indications. Editorial. *J Epidemiol Community Health* 1991; 45: 257–9.
- 2 McLachlan G. *Portfolio for health: the role and programme of the DHSS in health services research*. London: Nuffield Provincial Hospitals Trust and the Oxford University Press, 1971.
- 3 Morrell DC. Role of research in development of organisation and structure of general practice. *BMJ* 1991; 302: 1313–6.
- 4 Ashley-Miller M, Kay AW. Initiating and supporting public health research—United Kingdom. In: Holland W, Knox G, Detels R, eds *The Oxford textbook of public health* (1st edn). Oxford: Oxford University 1985. pp. 402–8.

writings and as an editor by such luminaries as Ryle, Doll, Carstairs, Cochrane, McKeown, Morris, Rutter, Holland, Knox *et al*) I have some glimmerings of *deja vu*; and indeed cannot help wondering whether too much valuable skill and effort is going into the rediscovery of known "indications".

I am already on record in *What price quality*² for my belief in the opportunities for influencing management now open to the practitioners of public health medicine. It seems to me that success in these will depend on the scientific validity of the "indications" provided by epidemiology; but history seems to show that, regrettably, there is a failure to recognise many of the signs of epidemiological practice, as well as its essential complement, the link between knowledge and application.

GORDON McLACHLAN
(Secretary, Nuffield Provincial
Hospitals Trust 1955–1986)

- 1 McLachlan G., ed. *Portfolio for health*. London: Oxford University Press, 1971.
- 2 McLachlan G., ed. *Portfolio for health II*. London: Oxford University Press, 1973.

Trends in hospital admissions for asthma in Lombardy, Italy, 1976–86

Substantial changes have been registered in death certification rates from asthma over the last few decades, and appreciable rises have been observed in most recent years in several developed countries, including New Zealand, England and Wales, and Italy.^{1–3} These changes have been related to the introduction and use of newer pharmacological treatments, and the recent upward trends to serious acute side effects of some specific formulations, or to the delay caused by these drugs in seeking appropriate treatment of acute severe asthma.^{4–10} This would suggest that the upward trends in asthma mortality are not necessarily a consequence of increased incidence and prevalence of the disease, and should not therefore be consistently reflected in other asthma statistics.

To shed further light on the issue, we have considered trends in hospital admissions for asthma between 1976 and 1986 in Lombardy, the most populated Italian region, with approximately nine million inhabitants. Records of hospital admissions for asthma in Lombardy for the period 1976–86 were obtained from the Regional Department of Epidemiology. From

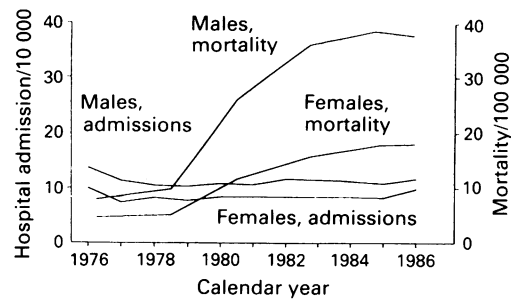
these data, and the corresponding estimates of resident population, age specific and age standardised admission rates were derived. Directly standardised rates were based on the European standard population.

Trends in overall age standardised hospital admission rates for asthma between 1976 and 1986 are presented in the figure and contrasted with national mortality rates over the same calendar period. In both sexes, there was no apparent trend in hospital admission rates over the calendar period considered. When age specific rates were considered, however, appreciable rises were observed in childhood (over 40% in both sexes), while there was no change in young adults (15–44 years), and noticeable declines in middle and older ages (table).

The interpretation of these trends is not simple, particularly with reference to the different patterns in various age groups, but nonetheless recent trends in admission rates for asthma in Lombardy are substantially different from certified mortality on a national level. Over a comparable calendar period, in fact, overall age

adjusted mortality from asthma in Italy increased by over fivefold (figure), and the rises were larger in middle and older age than in children and young adults.³ This discrepancy therefore indicates that the rises in asthma mortality cannot simply be related to increased incidence or prevalence of severe asthma requiring hospital admission. Assuming that data on asthma mortality are satisfactorily reliable, and that the determinants of hospital admission have not dramatically changed, this would suggest that

Trends in age standardised (on the European standard population) hospital admission rates for asthma in Lombardy and in mortality rates in Italy, 1976–1986.



Trends in age specific hospital admission rates from asthma in Lombardy, Italy, 1976–1986.

Calendar period	Hospital admissions/1000 population									
	0–4 years		5–14 years		15–44 years		45–64 years		> 71 years	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1976–78	3.6	2.4	0.6	0.4	0.3	0.3	1.3	1.0	3.2	2.0
1979–81	3.7	2.6	0.8	0.4	0.3	0.3	1.0	1.0	2.6	1.8
1982–84	4.8	3.1	1.0	0.6	0.2	0.3	1.0	1.0	2.5	1.7
1985–86	5.2	3.4	1.1	0.7	0.3	0.3	0.9	0.9	1.9	1.6
Percent change	+44	+42	+83	+75	–	–	–31	–10	–41	–20

changes in the (pharmacological) management of the disease are also implicated in the recent unfavourable trends in mortality.^{4–7 10 11}

MONICA FASOLI
CARLO LA VECCHIA
Istituto di Ricerche Farmacologiche
“Mario Negri”, Via Eritrea 62, 20157 Milan

MARINA FORMIGARO
FRANCESCA REPETTO
Assessorato alla Sanità
Regione Lombardia, Via Stresa 24
20100 Milan, Italy

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Affluence, age, and motor neurone disease

Motor neurone disease (MND), of which sporadic adult onset amyotrophic lateral sclerosis (ALS), with or without bulbar involvement, is the most common clinical subtype, is a disease of unknown cause.¹ One possibility is the interaction of aging with, as yet, unidentified environmental factors.² Support for this suggestion is derived from the study of the Western Pacific forms of motor neurone disease,³ the low concordance observed in twin studies,⁴ and reports of motor neurone disease or MND like diseases in relation to a variety of exogenous factors.

Occupational groups or socioeconomic status might provide clues to possible environmental risks and it has been suggested that leather workers⁵ or agricultural workers⁶ may be at increased risk, but there is no consistently overrepresented group.⁷

Environmental factors may well be related not just with occupation but with social deprivation. Although there is some work relating motor neurone disease to social class, measurement of the latter is fraught with difficulty, particularly for women employed in the home. Large case-control studies have found no difference in socioeconomic status of men,⁸ or any relationship to home space.⁹ Two studies based on death certificates are conflicting; in Finland an increased risk in the lowest social class was noted

but with no clear gradient, while Martyn *et al*¹⁰ observed a stepwise trend of the proportional mortality ratio in England and Wales, which increased with higher social class.

To avoid some of these difficulties a measure of socioeconomic deprivation in Scotland has been devised¹¹ using information available from the last (1981) census which allocates a numerical score to individual postcode sectors (which contain an average of 6000 persons). Using the Z score technique to give a single score, the percentage values are combined for each post code sector based on the four variables of car ownership, degree of overcrowding, unemployment, and social class. The scores are distributed into seven categories within 0.3, 0.8, 1.5, and > 1.5 standard deviations (SD) either side of the mean (+0.3 SD to –0.3 SD as the middle category). One important advantage of this method is that it can be applied to males and females, regardless of occupation, whether working or not. When standardised mortality ratios based on this scale are calculated, a number of common causes of death (eg, cancer of the lung) show a highly significant trend (figure, A), with higher ratios from deprived areas.

In contrast the figure (A) also shows the standardised mortality ratios based on the 533 deaths from motor neurone disease (ICD 335),