

Reviewing the literature: being inclusive

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Recently, many of us have been involved in reviewing project grant proposals for National Health and Medical Research Council funding. These proposals start with a literature review as background to the proposed study. The review shows that the research problem being addressed is an important one and that the issue remains unresolved. The quality of the literature review does much to persuade the reviewer of the investigators' research credentials but there are few guides for writing a good literature review.

Even if we take account of the limited space for the review on the standard form, there are reviews that are highly selective. Some focus only on those aspects of the literature that support the case for the study; others limit their focus to the literature within a discipline, ignoring major contributions from other health disciplines. Any investigator now has ready access to the full health literature through Medline or other databases. Similarly, any reviewer can readily confirm surprising omissions and such omissions then detract from an otherwise well-developed proposal.

A more developed literature review accounts for the major trends in the public health literature including the literature of the component disciplines. Conducting such a review is time-consuming, especially since it has to be conducted before the proposal for funding is even submitted, but if it is refined and updated it provides a good starting point for the eventual research articles that will be published from the study. As one of the Journals to which such articles are submitted, we have a keen interest in promoting this more comprehensive literature review. This is especially true if investigators develop the literature review to the extent that it is submitted as a review article.

In the past 10 years, the systematic review has emerged as a form of research in its own right, not just a preliminary to other research. The most developed form of the systematic review provides a scientific synthesis of the results of well-conducted quantitative studies of the effectiveness of an intervention. The aim is to reduce bias. The results of a number of studies, statistically combined, can overcome the limitations of single, smaller studies. In order to avoid the bias arising from a reluctance to publish negative results, even unpublished studies are tracked down and included. These reviews give a clear account of the inclusion and exclusion criteria for studies and of the methods used to synthesise the results, and are regularly updated. The methods to be used for conducting such systematic reviews are well established.

Clearly, this form of systematic review is not within the reach of all researchers. Many of these reviews are conducted in international collaborations. In many research fields, this kind of review is impossible. What the systematic review has done is to raise the bar for all other reviews.

Given the careful way in which systematic reviews are generated, and scrutinised, they constitute an important starting point for other reviews. So, for example, if researchers want to analyse policy responses to a particular intervention, it is worth knowing what evidence there is that the intervention does more good than harm. Again, this information is readily available on databases. In Australia, we are fortunate that a national government subscription allows us free access to the Cochrane Library and its extensive collection of systematic reviews: <http://www.nicsl.com.au/cochrane/index.asp>.

In most research projects, the bulk of the literature that has to be reviewed cannot be reviewed using statistical methods and we need to turn to more traditional approaches. However, we can draw on the systematic review for inspiration in making a review systematic rather than idiosyncratic in its coverage, with a clear indication of what is included and what is excluded. Relevant work from other disciplines must clearly be included. Even if the review is part of what we term a Point of View article, a fair representation of the literature from other points of view must be provided.

In this issue

Hazards often carry the connotation of being major, obvious, immediate and threatening. The hazards grouped here in the first six papers are not like that. To begin with, Rod Simpson and colleagues report on the short-term effects of air pollution in four Australian cities, with daily mortality and hospital admissions as outcomes. Those of us who lived in English cities in the 1950s and 1960s find it hard to admit the possibility of air pollution in Australia, but there is no escaping the reality of it in these two papers. Using complex standard methods of analysis and ensuring that bush fire and controlled burn events were excluded from the data, the authors demonstrate the impact of particle pollution, nitrogen dioxide and ozone levels on respiratory and cardiovascular mortality, with a separate assessment of cardiovascular mortality in people 65 and older. In the second paper, they describe the impact on cardiovascular and respiratory hospital admissions and also show significant heterogeneity across the four cities.

Rennie D'Souza and colleagues from two research centres in Canberra report relationships between working conditions, status and health using the first data collection of the Personality and Total Health (PATH) 40 + Through Life Project. Their aim was to see whether job strain and job insecurity differed by occupational status. The evidence that high-status individuals exposed to adverse working conditions were just as likely as low-status individuals to have poor outcomes is important because the adverse working conditions are becoming commoner in Western societies and appear, in this study, to be important influences on depression and anxiety disorders for all employees. Working, like breathing, can be a health hazard. Rima Habib and colleagues, on the other hand, were *not* able to detect an increased mortality rate among nuclear industry workers at the Lucas Heights Science and Technology Centre in their retrospective cohort study. The two aspects which make this paper so interesting are the detailed discussions of the methods and the study limitations. Pauline Gulliver and Dorothy Begg analysed data from the Dunedin

Multidisciplinary Health and Development Study in 1993-4 to throw more light on the relatively high rate of unintentional drowning in New Zealand, reported several years ago. Boating without a life jacket or within two hours of drinking alcohol was fairly common, as was swimming in an unsafe environment and those with confidence about their water skills were much more likely to engage in unsafe behaviours. 'Near-drowning' experiences (n=169) were described by 141 (14%) study participants. This section ends with a good news story on the hazards of major surgery. The development of a surveillance system to monitor infections acquired after coronary bypass surgery in Victorian hospitals showed that this was feasible and that results in the first 18 months were able to be compared with US and German results.

Sex has its hazards too, as the first two papers in the next section demonstrate. Marcus Chen and colleagues describe the correlations between population-based screening for *Chlamydia trachomatis* and notification rates for this infection which is now notifiable in New South Wales. Although the number of tests increased progressively over the study period, the percent positive yield from testing increased, "indicating that the point of diminishing returns had not yet been reached". Gillian Abel and Cheryl Brunton provide information from a Christchurch survey of more than 1,000 people aged 16 to 18 who were still attending school. Their findings illuminate the previous paper by identifying the contradictions between belief and practice: most young people, especially women, believed there was a high likelihood of young people acquiring a sexually transmitted infection but did not think they themselves were vulnerable. Condom use declined from 16 to 18. Misunderstandings of infectious risks were common.

Ross Corkrey and colleagues describe the piloting of a new cervical screening intervention, one using an interactive voice response system. The flow diagram shows the sequence of events following a telephone call to 5,000 randomly selected households, and the evaluation suggested a greater use of the message by unscreened and older women. The final paper in this section is about sexuality and mental health rather than sex. Ruth McNair and colleagues report cross-sectional analyses of the younger and mid-age cohorts of the Australian Longitudinal Study on Women's Health (ALSWH) to assess the association between mental health and one of four subgroups: exclusively heterosexual, mainly heterosexual, bisexual and lesbian. The three latter groups, comprising 7.7% of the younger cohort and 2.4% of the older cohort had poorer mental health on almost all outcomes, though this difference was attenuated after controlling for stress, abuse and social support.

Smoking is still a key public health issue in Australia and New Zealand. Alistair Woodward and colleagues provide strong evidence that exposure to second-hand smoke in bars for even three hours increases cotinine, the metabolite of nicotine, in saliva. This confirms risks already identified but also shows the possibility of unobtrusive and rapid assessment of smoke exposure in a variety of locations. Raoul Walsh and colleagues' Brief Report shows that a substantial proportion of Australian drug and alcohol agencies continue to permit smoking on their premises, with

inconsistent policies and practice. The difficulties are very clear. Sarah Hill and colleagues analyse data from the New Zealand Census in 1981 and 1996, together with information from a national survey, to show that a period of rapid decline in overall smoking prevalence was associated in time with a marked increase in the differences in smoking prevalence by education, household income and ethnicity. They call for increasing attention to disadvantaged groups by those developing public anti-smoking programs. Amanda Nagle and colleagues describe a brief nurse-based intervention tested in a large randomized trial (n=1,422 patients) within a tertiary teaching hospital in Australia. Despite its thoughtful development and implementation the intervention did not result in any difference in self-reported abstinence at three or 12 months after discharge. This concurs with the findings of a recent Cochrane Review.

Don't forget to catch up with the latest discussion in the Letters on exotic mosquitoes in New Zealand and the book reviews.

Impact factor up date

Two weeks ago we became aware that *ANZJPH* did not have an impact factor for the year 2003. Impact factors are produced by Institute of Scientific Information (ISI) in Philadelphia and published on the Web of Science.[®] They are derived from the citation of papers published in one paper by subsequent publications. Debates about the usefulness of impact factors and citation counts as measures of 'quality' and as ways of 'ranking' journals are common and often heated. A local example is The *Medical Journal of Australia's* viewpoint and editorial¹⁻² of two years ago. Yet, no matter what the state of the argument is in the debate about the interpretation of impact factors, the recent requirement to provide impact factors and citation rates for all of one's papers in some national grant applications means these measures cannot be ignored. We apologise for the system failures which allowed the *ANZJPH* impact factor to be lost last year and are pleased to be able to confirm that *ANZJPH* will have an impact factor for 2004. The processes which led to the absence of the impact factor have been reviewed by this Journal, by the Public Health Association of Australia and by the local representative of ISI. We trust that the problem has been solved.

Meanwhile, the *Australian Journal of Psychiatry*¹ proposed an alternative method for identifying the best papers published each year in that journal, setting six criteria, and asking five international members of the editorial board to list three articles in each issue that met at least one of the six criteria. Their pooled findings have been used to select the most highly rated nine papers each year. Perhaps this process could provide a qualitative supplement for the ISI measures.

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