

On balanced representation in research

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After the December issue was published, this Journal received some negative comment on a paper by Steele et al on children in immigration detention centres. The most serious accusation was that the authors were over-sympathetic to their research participants, so that the children's mental illness was exaggerated. Thus the scientific credibility of the paper is called into question. At a more personal level, a book on evidence-based medicine, by one of us (JD),¹ has aroused negative comment for failing to represent fairly the contribution of women researchers. Underlying both criticisms is the problem of how to assess credible research. How should we reconcile different points of view about what should be addressed in research? How do we ensure balanced representation in the research published in the Journal?

Evidence-based medicine has taught the clear lesson that there is unlikely to be a definitive study in health research, no matter how carefully it is designed and executed. The most rigorous trial will be subjected to review in the light of subsequent research and the conclusions may be revised or even rejected. This is even more likely when research addresses a context where there are numerous interacting factors operating, such as in a community-based study. Here it would be almost impossible to conduct a single definitive study. Instead, researchers focus on the major factors relevant to their research question. The issue then is to be clear about, and to justify, the choices that were made, providing details on what was excluded, so that subsequent researchers can replicate the research or review the conclusions.

It is not just a matter of making evident the choices made. When researchers ignore an issue that is central to the research question, the conclusions must lose credibility. For example, there is much concern at present about weight gain in primary schoolchildren and programs have been devised to encourage children to walk or cycle to school. If the research has not taken account of the physical and social environment that may make walking and cycling impractical or unsafe, then its value is undermined. While editors make their own judgments, the peer review process helps identify those contextual factors that must enter into an account if a paper is to count as a substantial contribution to knowledge. Our commitment is to select reviewers from a diversity of relevant backgrounds to ensure that different views on the topic are considered.

Researchers know that there are inequities in health and many are aware that we often fail to see the needs of those disadvantaged by class, race, gender, age or disability, as well as other factors operating in specific contexts. There is the expectation in public health that researchers should at least be conscious of not further increasing disadvantage. Some sociologists go further and see it as incumbent on the researcher to 'represent the underdog'. This

is easier said than done. When social or community groups are excluded and disadvantaged, the most common way in which this is effected is by silencing them. That complicates the task of the researcher.

In the study conducted by Steele et al, we have a clear example of the difficulties of doing research under constrained circumstances. There is concern about the situation of people in the detention centres that house newly arrived refugees and people judged to be illegal immigrants; a particular concern has been the mental health of the children detained. It has been very difficult to gain research access to these children. Under such circumstances, data collection is necessarily compromised. What then is the test that is applied to assess the credibility of research? The first requirement is that the study must be done as well as it could be, given the circumstances. The second is that the study's limitations should be fully disclosed. Those who question the results can then replicate the study, perhaps with the advantage of better access to study participants. The article by Steele et al met these requirements. Should we have required that the views of the authorities in the detention centre or government departments be represented as well? That, we believe, is a task for other researchers than those already facing substantial research challenges.

The book on the rise of evidence-based medicine addresses a completely different situation and one more familiar to researchers using qualitative methods. Here balanced representation is complicated by a long history; there are extensive data sources, a growing literature and a large number of highly articulate potential research participants. There must be exclusions and only a fraction of the relevant material can be addressed in any one study. The troublesome question remains whether some less vocal contributors are unfairly overlooked in the book or, indeed, in evidence-based medicine itself, and whether this is linked to class, race or gender or even age or disability.

It is certainly possible to write an account of evidence-based medicine that is focused on those groups whose views are overshadowed in the public discourse. Understanding the situation in which disadvantage manifests is an important research topic in its own right. On the other hand, it also seems justifiable to concentrate on a critical analysis of the rise of evidence-based medicine, concentrating on its public face, identifying disadvantage where it occurs without making that disadvantage the focus of analysis. As in the case of children in detention, this is a substantial task and, in time, there will be other complementary representations.

In both these cases, the requirement is that the authors be alert to issues that compromise the scientific credibility of their studies and be clear about the practical and conceptual limitations of their research. Our task, as editors, is to ensure that competing, well justified representations also see the light of day.

In this issue

This issue opens with four very different papers about Indigenous health in the north of Australia using a variety of research methods. Janine Calver and colleagues report stark findings from long-term follow-up of what is described as a randomised trial of health assessment, with detailed feedback to

participants, carried out in the Kimberley in 1987-89. The current paper compares those who had received the intervention with the rest of the population, making use of WA's capacity to link hospitalisation, cancer and death data. Alas, there was no evidence of a reduction in deaths during the 13-year follow-up, despite an increase in health service use. Christopher Burgess and colleagues' Point of View explores the potential of natural resource management to improve health and employment in remote areas of northern Australia. Komla Tsey and colleagues report on the adaptation of a Family Wellbeing program, devised to support adults in taking greater control and responsibility for their decisions, to a school-based program in north Queensland, with promising results. John Condon and colleagues used cancer registry data to calculate cancer incidence and survival for Indigenous people in the Northern Territory, compare the findings with cancer in other Australians and describe time trends. They report nine cancer sites where the cancer incidence rate ratio is greater than two among Indigenous people under 65 compared with the whole Australian population by age group. Their summary of the changes in incidence from 1991 to 2001 is even more worrying, with all but two of 13 relatively common cancers showing an increase. The grim overall findings point to an additional factor: summarised plainly by the authors: "Cancer has a greater impact on Indigenous than other Australians, partly because of the higher incidence of some cancers and partly because of poorer prospects for survival in those who have cancer."

In a paper with major implications for rural health, Catherine Joyce and Rory Wolfe report on inequities in the distribution of the Australian primary health workforce – general medical practitioners, nurses and allied health professionals – in 1996 and 2001. The authors, who used census data for this analysis, draw our attention to the information gaps: clinical psychologists and social workers are not included among allied health professionals and neither are Indigenous Health Workers. The inequities are greatest in the allied health workforce. Despite the implementation of numerous government health workforce initiatives, distribution patterns changed very little in the five-year period.

Graeme Hawthorn and Richard Osborne's Methods paper deals with a generic health-related quality of life instrument (the Assessment of Quality of Life, AQoL). Their aim was to provide population norms, minimum important differences and effect sizes for the interpretation of findings. Jennifer Powers and colleagues draw attention to the known marked differences in responses to some standard instruments (e.g. the SF-36) when mail and telephone interviews are compared and propose the use of multiple imputation "to make SF-36 scores for telephone respondents comparable to scores obtained by mail, for which study population norms exist". Michael Coory and Sue Cornes raise the question of whether interstate comparisons of public hospital outputs using Diagnosis Related Groups (DRGs) are fair. The basis for their concern is the potential for more complete coding of secondary diagnoses in administrative hospital data to modify the DRG code, resulting in a DRG with higher resource use and a higher cost weight. The authors draw attention to the capacity for their analyses to be used

more widely, giving as examples the application of these methods to private hospitals and their use in screening administrative data to identify settings needing additional audits.

The first Hot Issue draws attention to the potential for harm to life and health in the environs of clandestine drug laboratories. David Caldicott and colleagues summarise the substantial increase in number detected in the past five years and estimate that there are three undetected for every one found. The number of people who may be harmed is worrying, ranging from those manufacturing the drugs to household members, including children, neighbours and those responsible for detecting and dismantling the equipment – police, fire brigade and emergency services. It is not a surprise to learn that these laboratories are often protected by sophisticated traps. What may be less well known are the health and environmental hazards of sites long after the laboratory has been dismantled. The second Hot Issue is a call by Maggie Kirkman for the engagement of public health with genomics. Her Point of View warns that controversy cannot be avoided and draws attention to the need to think through the intrinsic tension between individual and family choices and the public good.

Food and weight may not be hot issues but they come together in the hot topic of obesity, especially obesity in children, which is daily fare in newspapers, magazines and on television. James Dollman and Amanda Pilgrim compare rates of change in body fatness in defined subsamples of South Australian children over the past five years. They identified different patterns for girls among urban and rural residents and differences also by socio-economic status of the school attended, describing the increase in measures of body fatness and central fat deposition as "a critical public health issue". Susan Donath and Lisa Amir analyse data from the 2001 National Health Survey to describe breastfeeding in Australia. They found a high breastfeeding initiation (83% breastfeeding when leaving hospital) dropping to fewer than two-thirds by three months and fewer than half at six months. Solids were offered to almost 90% of infants by six months of age. Although initiation levels are high for a developed country there have been no gains in duration of breastfeeding or later introduction of solids since 1995. Margaret Millar and Christine Pollard describe a five-year "multi-level, state-wide, social marketing campaign" in Western Australia involving an inter-sectoral alliance between the Department of Health and the fruit and vegetable industry. Its aim was to increase awareness of the need to eat more fruit and vegetables and to encourage increased consumption. This paper provides a strong discussion of the strengths and weaknesses of the partnership that developed and should be read by anyone contemplating inter-sectoral action.

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Vanessa Shrewsbury and colleagues report a follow-up of more than 400 women who had anthropometric measurements taken in 1996-97 when their children were seven to eight years old. The subsequent study achieved a good participation rate and showed that over the subsequent five years there were adverse shifts in BMI and in waist circumference.

Two letters complement the food and weight paper. Owen Carter describes data from 1960 and 2003 which suggest that the increase in children's sedentary pursuits is much smaller than usually perceived, leaving consumption of energy-dense foods as a more plausible factor in weight changes. Lisa Franco and Debra Welsby draw attention to the feasibility of healthy fundraisers, while Lyn Adamson and colleagues report on the difficulty of recruiting young women to telephone interviews. This issue's book reviews exemplify the diversity of public health. They range from the global elimination of brain damage from iodine deficiency to gay and lesbian aging, and include both a critical history of colonialism, nationalism and public health titled *Imperial Hygiene* and a book on SARS.

Reference

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Duplicate publication – some further observations

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I am very pleased to have been given this opportunity by the Editors to comment on some issues that arise from the position they have taken on duplicate or redundant publication. First of all, I congratulate them on their campaign to address this important issue, and on their efforts to educate readers of the ANZJPH on this subject.¹

The epidemic of duplicate publication is a curse which must be tackled for a number of different reasons. The most obvious one, and the one which most offends honest scientific writers, is that it may represent a kind of fraud in which a writer tries to pass off a second or subsequent piece of work as if it were an original contribution to the literature. A second problem caused by duplicate publication is more technical – the problem of bias caused by the duplicate input of data into meta-analyses. A further objection to duplicate publication is the sheer waste of editorial and publishing resources in dealing with papers that should never have been submitted.

I commend the editors for their stance on duplicate publication and I support their suggestion that all authors read and follow the guidelines recently published by the International Committee of Medical Journal Editors (ICMJE).² In this article, I wish to address two issues related to duplication publication. They are the question

of fractional publication and the ability of editors to punish alleged cases of duplicate publication.

Fractional publication

The ICMJE guidelines address a number of aspects of apparent duplicate publication and they identify situations in which it is justified, such as the promulgation of official guidelines for different readerships. One of the special situations they raise is that in which different authors analyse the same database and then attempt to publish their results. If the analysis used by the different authors is essentially similar, a journal that sees two or more such papers may choose to publish the first of these to be submitted. However, if each of the submissions uses different methods of analysis, the journal may agree to publish more than one study of a single database.

It is the question of different analyses of the same database or phenomenon which I will explore further. Rather than the example given above, in which different authors use different methods of analysis to study a single database, I wish to explore the situation in which the same authors use a variety of statistical or other methodological approaches to study different aspects of a single database or a single phenomenon. This approach can be described as fractional publication.

I wish to put aside here the suggestion that a reasonable person might make – that the authors should combine all their analyses in a single paper. Let us pretend for a moment that the authors believe that there is real value (for the scientific readership and not just the CVs of the authors) in separate publication of the different analyses. An example might be a series of reports into a newly discovered infectious disease, in which the original case report, the epidemiological analysis, the virological studies and the immunological surveys of antibody levels might warrant separate publication in specialist journals). The trend toward fractional publication is fuelled not only by the pressure to publish more and sooner, but also by the page limits imposed by journals and the increasing specialisation of journals.

There is a way of ensuring that fractional publication is dealt with appropriately. If the authors were in every case to attach a summary of all other aspects of the study which are being published, submitted or planned for publication in the same or other journals, editors would be able to assess the value of the fraction of the study being offered to them.

The Editors of the ANZJPH have recently announced that they will soon require authors to list all other similar or overlapping papers that are in press or under review.¹ This is an important educational intervention because it makes it clear to authors that overlapping or fractional publication may drift into the dangerous territory of duplicate or redundant publication.

Crime and punishment

When an editor encounters a case in which there appears to be an attempt to publish a duplicate or redundant report of a study, they are faced with a decision on how to respond. If there is

reasonable degree of certainty that the author is in breach of guidelines on duplicate publication, the most straightforward response is to simply reject the paper. This is the action recommended by the ICMJE. In such a case, the editor might choose to reprimand the author and to alert them to the problems created by of duplicate or redundant publication.

Unfortunately for the editor, most cases of apparent duplicate publication are not absolutely clear cut – it is rare for an author to attempt to submit the exactly same text to different journals. The ICMJE recommends that the editor must therefore judge whether there is “substantial overlap” with another paper. It is this question of judgement which can cause difficulties for an editor.

If the editor believes that the case against the author is not clear-cut, they might ask the authors for a detailed response to the allegation that there has been attempt to foist a duplicate publication on the journal. In an ideal world, the editor would carefully detail each aspect of the allegation of duplicate publication and would attach evidence to support each of their statements. The author would then be given an opportunity to respond in detail to each part of the allegation. If the dispute was to progress, the editor might seek advice from an independent expert in the area of study.

Unfortunately, most editors do not have the time or other resources to conduct such a debate with the authors who submit manuscripts to them. More importantly, they may not have the investigational resources to support their hunch that the author is in breach of guidelines. For these reasons, it may be expedient for the editor to simply reject the manuscript and warn the author of their suspicions. The rejection of a manuscript is well within the normal powers of an editor and is not subject to serious challenge. Even if the editor has misjudged the intentions of the author, the journal is still within its rights to reject the paper.

In some cases, the editor may be tempted to take further action. One possibility is that they might add the name of the author to a black list or write to the editors of other journals in which the author has published to inform them of the alleged infraction. This is a serious step, since it may do irreparable damage to the reputation of the author and the home institution of the author. In such a case, the author or the institution may seek legal redress on account of defamation by commencing a tort action. If the author claimed that their future career was blighted by the actions of the editor, the case may take on significant proportions. The problem facing the editor in such a situation is that their judgments and actions may now be subject to a different kind of scrutiny, since the matter will be taken out of the world of ethics and academic conduct and into the hostile environment of barristers and settlements.

In a court, the apparently reasonable conclusions drawn by the editor might be challenged in detail and might be rejected on commercial rather than academic grounds. Courts, which are used to dealing with theft and physical injury, might find it hard to understand why the entire career of a scientist should be destroyed

over what the public would perceive as a minor technical breach in an arcane field of publication. It must be remembered that the public sees egregious examples of duplicate publication and even frank plagiarism on a regular basis in our major daily newspapers and magazines.

So, what are editors to do? I support editorial action in rejecting papers on suspicion of duplicate publication. If the editor has the time and other resources, they should consider engaging in a debate with an author over an allegation of duplicate publication. However, I think that an editor should be cautious about informing other journals or creating blacklists because of the risk of legal action. A successful action by an injured author may bankrupt a journal, even if the instincts of the editor were correct. This may sound like a recommendation to play it safe and ignore bad behaviour, but it is not. It is simply a recognition that the ethical standards set by academic journals, no matter how important they seem to us scientists, may not be accorded the same weight in a court of law or in the court of public opinion.

The situation is not dissimilar to that facing universities that have to deal with cases of academic misconduct, such as cheating in exams or plagiarism. In the past, a university would not have hesitated to expel a student for ever on account of such an infraction. But in the 21st Century, universities are very careful to ensure that the punishment is carefully graded so as to fit the crime. Otherwise, they face legal challenges which may be hard to defend except in the most appalling cases.

References

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Editors' Note:

Our practice is to base selection of papers on reviewers' comments. To date, all papers about which issues of redundant publication have been raised have been rejected because of reviewers' comments on the quality of the papers. This is fortunate, but it poses a further dilemma. If we are aware that a paper has overlap with a substantial number of other published papers and that these papers are neither acknowledged nor referenced, then there is the expectation that we should take action (see the World Association of Medical Editors at <http://www.wame.org/resources.htm#ethics>), at least, providing each of the other editors with the list of papers for their own assessment. As Charles Watson warns, this puts us as Editors, the Journal, and the PHAA at risk of legal action. This is an issue that deserves more debate and we welcome Letters to the Editor and Points of View on this thorny problem.