

# AUSTRALIAN AND NEW ZEALAND JOURNAL OF PUBLIC HEALTH

Using the *Australian and  
New Zealand Journal of  
Public Health* as a research  
and teaching resource

**Volume 1: Survey research**

**Editor: Priscilla Robinson**



## **The first e-book from PHAA**

Survey research provides the foundation data for much of public health practice. This selection of key articles on survey research is intended to be useful to research methods teachers and researchers.

This first e-book includes a selection of papers from ANZJPH. It covers a range of survey research styles and types. Many other examples are to be found in ANZJPH.

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Several further e-books are planned, and suggestions for additional topics are welcome.

## Foreword

**Priscilla Robinson**

*Editor, Australian and New Zealand Journal of Public Health*

Surveys provide one of the cornerstones of public health research and practice. The research methods used in public health survey research yield less robust evidence for interventions than either clinical trials or laboratory research; the conditions in which surveys are conducted are largely uncontrolled and might therefore be subject to bias in data collection and interpretation. Public health interventions (such as immunisation and screening programs) are important, and need of course to be developed through clinical trials. But these interventions cannot happen without good quality surveys to tell us about the epidemiologic triad, 'who, when and where' of a public health problem. The results that surveys produce are critical for the development of public health interventions and for supporting public health policy.

Teachers of public health are constantly searching for interesting, high quality examples to use as teaching materials, but high quality examples of public health research are surprisingly hard to find. However, the *ANZJPH* is a major publisher of public health survey research, and this has prompted us to provide a collection of survey research papers, in particular as a tool for teaching public health.

This e-book is organised into five sections, covering methodological issues in conducting surveys, population survey methods, group survey methods, Indigenous health surveys and surveys of hard-to-reach populations. The papers have been selected to provide a smorgasbord of survey methods, with a variety of topics, methods, problems, solutions and analytical approaches offered. We have excluded papers that do not include a complete methods section, as in this collection we wanted to show both the methods used and results generated. However, we have included a series of papers each of which address a specific methodological complication within the chosen design.

The many problems encountered in the conduct of public health surveys make for important limitations in interpretation of results, so it is good that researchers pay attention to both the problems and the problem solving, and are prepared to write about them. The methodological issues in conducting surveys are important because of the potential for bias in subject selection, for confounded sample populations, leading to problems in interpretation of results. This book begins with a section about methodological issues, and leads with an editorial about highlighting – celebrating – the study limitations, and acts as a reminder that experienced authors will provide information about the limitations of their research, providing the reader with a guide about the usefulness of the work, and the strength of the evidence generated. The section includes a collection of papers about response rates, including the general problem of low response rates, different response rates in case compared with control subjects, and participant attrition.

Data quality and validity is a critical issue in research, and is analysed in considerable depth in three papers. In Australia, following the introduction of laws about privacy, public health research became a whole lot harder, as the usual means of identifying and linking populations became impossible, and the problem of privacy as a hindrance to research is discussed, with a cautionary tale about deriving case-generated codes. The use of different ways of collecting data about the same problem (in this case physical activity) from different populations using different methods and different surveys highlights the important message that the results can not be directly compared, even though on the face of it maybe they could be – and probably often are; and lastly we include a paper in which the researchers used different methods (CATI self-report biometric testing) for collecting the same information from the same people, showing that in general people underestimate their weight and overestimate their height.

There are a number of different types of surveys that are commonly used in public health, and we provide here some examples of methods of surveying populations and some specific groups. Population studies may be too large to report both method and results in one paper, so we include here both the methods for conducting the large cross-sectional Australian Study of Health and Relationships in over 20,000 Australian adults, and one of the specific outcome papers about knowledge of sexually transmitted infections and blood-borne viruses. As a contrast, we have included a cohort study, of the effect of maternal smoking in pregnancy on the smoking habits of the more than 7,000 offspring at 21-years of age. A population survey about attitudes to smoking bans in a randomly selected sample of households in New South Wales is included to show how an effective, albeit not unusual, strategy for random selection is undertaken. The researchers in both the second wave survey of the Australian Longitudinal Study on Women's Health and the 1997 Active Australia measured levels of activity in nearly 13,000 women and men (mainly women) over 45 and show how they analysed activity measures, with important conclusions for public health interventions.

We include a series of studies on groups of people with important problems to show how such groups are identified and contacted. These include a case control study of the risk factors for asthma deaths, with two control groups; a cross-sectional study of the association between obesity and various emotional disorders; and we include two contrasting studies about influenza immunisation, one a national survey of the prevalence in Australians over 40 years old; and the other a multistage cluster study of the prevalence of vaccination in aged care residences in South Australia – a similar question, but very different approaches. The health of younger Australians is the concern of another three studies: a cross-sectional CATI survey of community attitudes to papillomavirus vaccination; the effect of unemployment on health; and a study of surfers about drowning risk knowledge.

Indigenous health is never far from our thoughts, and these papers show how valuable public health research can be done without necessarily undertaking a clinical study. The first paper in

this section describes a systematic standardised survey of housing and living conditions in 132 Indigenous communities in four states between 1999 and 2006. The second is about measuring smoking patterns, but instead of measuring smoking in people the authors conducted an audit of wholesale and point-of-sale data. The third paper examines data collected as a part of the 2002 National Aboriginal and Torres Strait Islander Social Survey to identify the social determinants for non-smoking in Indigenous people, with some startling results. The effects of racism was studied through a cross-sectional survey conducted in rural Australia; and the ATSI health research workforce was surveyed through an e-mail and post survey of all people who had either been an author on a paper or published a higher degree thesis in the field of Aboriginal health between 1995 and 2004, identifying more than 1,000 ATSI researchers.

The last section of this e-book concerns the methods used to involve hard-to-reach populations in surveys. First, we turn to a survey of a cohort of new injecting drug users who have a high rate of hepatitis C, pointing the way for policy change. Next, even though the study designs will be similar, finding acceptable ways to include cross-sections of young men living in rural Victoria in STI screening surveys and homeless people in Sydney in a survey of violent experiences in Sydney require very different recruitment techniques. And lastly, we have included a survey of 'tweeneys', children between 10 and 13 years, in which a cohort of more than 1,000 children completed screen diaries (recording TV, cinema, computers and video games times).

We hope there is something in this book for everyone, with examples for lecturing and tutorial use for students at all stages of learning about the importance of good public health surveys.

## Acknowledgement

Jeanne Daly is gratefully acknowledged for the original idea, and for collegial support and critical feedback in the production of this e-book.

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## Methodological issues

- Celebrate your limitations *Aust N Z J Public Health.* 2009; 33:304-5  
*John B. Lowe*
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