

7 Data sources, developments and deficiencies

A large number of data sources were analysed to produce this report. This chapter provides information on the data sources used, and discusses the adjustments made in analysing these data at the seven category RRMA level. There are a number of deficiencies in these data sources, and these are also discussed where they impact on the analysis.

Australian Bureau of Statistics (ABS) population estimates

Population estimates by Rural, Remote and Metropolitan Area categories (RRMA) were derived from annual ABS population estimates for Statistical Local Area (SLAs). The seven-category RRMA classification (DPIE & DSHS 1994) was used to convert population estimates by Statistical Local Area to estimates for each of the seven RRMA categories. This classification allocates an RRMA category to each SLA listed in the 1991 Australian Standard Geographical Classification (ASGC).

For years other than 1991, SLA/RRMA concordances were derived after taking account of previous and subsequent boundary changes to SLAs. These boundary changes include amalgamations of SLAs, or various splits and combinations of parts of SLAs to form new or redefined SLAs. In most of the States and Territories, there were few SLA boundary changes between 1986 and 1996. However, in Victoria, Queensland and Tasmania there were substantial changes introduced between 1991 and 1996.

National Mortality Database

Registration of deaths in Australia is the responsibility of the State and Territory Registrars of Births, Deaths and Marriages. Information on the cause of death is supplied by the medical practitioner certifying the death or by a coroner. Other information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official institution where the death occurred. Registration of death is a legal requirement in Australia, and compliance is virtually complete.

The Registrars provide deaths data to the ABS for coding and compilation into national statistics. The AIHW also holds these data without unique identifiers in a national mortality database.

Mortality data are coded by ABS to the SLA of usual residence of the deceased, using the latest ASGC boundaries. These boundaries are updated annually by ABS. As a consequence, annual mortality data cannot be directly compared at the SLA level in cases where SLAs have changed boundaries.

To enable time series comparisons of mortality data at the RRMA level, SLA/RRMA concordances were developed for each ASGC version used to code mortality data to RRMA categories over the period 1986–96.

Indigenous identification on death certificates is poor in many States. Only South Australia, Western Australia, the Northern Territory and the Australian Capital Territory are currently considered to have more than 90% coverage of Indigenous deaths in the registration of deaths (ABS 1997b).

The causes of death on all death records for the period 1986–96 are coded according to the ninth revision of the International Classification of Diseases (ICD-9). Only the principal cause of death is coded prior to 1997. Multiple causes of death will be available from 1997 onwards. As a result, co-morbidities and chronic conditions which lead to death can be documented.

National Hospital Morbidity Database

The National Hospital Morbidity Database is an electronic compilation of summary records from the admitted patient morbidity systems in public and private hospitals. Almost all hospitals in Australia are included. The exceptions are public hospitals not within the jurisdiction of a State or Territory health authority or the Department of Veterans' Affairs. In addition, data were not supplied for 1995–96 for the one private hospital in the Northern Territory, the private freestanding day hospital facilities in the Australian Capital Territory and the public psychiatric hospitals in Queensland (AIHW 1997a).

Hospitals collect clinical and administrative information about the patients they treat, including sociodemographic, diagnostic and duration of stay data and the procedures performed. The data is coded by principle diagnosis or principle procedure according to the ICD-9 Clinical Modification. The data are collated, on an in-patient basis, by the various State and Territory health authorities, and by the Department of Veterans' Affairs. The AIHW receives the collections from these agencies, and maintains them without unique identifiers in a National Hospital Morbidity Database. A person may have multiple episodes in hospital, so each hospitalisation recorded may not be unique to a single patient.

A perceived deficiency in hospitalisation data is in the level of identification of Indigenous status on hospital records. This is likely to vary considerably. The hospital separation rate in 1995–96 for the Indigenous population (440 per 1,000) was much higher than for the overall population (285 per 1,000), but large variations among the States and Territories cast doubt on the coverage of Indigenous hospitalisations. Within States and Territories, there may also be significant variation in identification levels between metropolitan, rural and remote zones, which limits the usefulness of comparisons between these zones.

National Cancer Statistics Clearing House Database

Since 1982, the registration of cancer has been required by law in all States and Territories. The data are collected by cancer registries and include clinical and demographic information about people with newly diagnosed cancer. This information is obtained from hospitals, pathologists, radiation oncologists, cancer treatment centres and nursing homes. Information on cancer deaths is available from the National Mortality Database.

The AIHW is responsible for the national collection of cancer statistics through the National Cancer Statistics Clearing House. In conjunction with the State and Territory cancer registries, the AIHW produces regular statistics on cancer incidence and mortality in Australia.

National Health Surveys

A series of 5-yearly health surveys, conducted by the ABS, provides national benchmark information on a range of health issues. The surveys collect information about illness and injury experience, episodes of hospitalisation, medical consultations, risk factors and a variety of women's health issues. Data from the ABS 1995 National Health Survey have been used in this report.

Two major limitations are evident in the use of National Health Survey data for rural health analysis. First, self-reported information, such as level of cholesterol and prevalence of hypertension, is difficult to assess because people have varying degrees of awareness of their own health status. Second, sample sizes in the rural and remote zones are too small to provide accurate estimates of health status and risk factors.

Perinatal statistics

The AIHW National Perinatal Statistics Unit produces a range of statistics based on a national perinatal minimum data set first introduced in 1979. This dataset is produced from notification forms for each birth, which are completed by midwives, and sometimes by medical practitioners. Data items collected include: sociodemographic characteristics of the mother; previous pregnancies; the current pregnancy; labour, delivery and the puerperium; and the infant, including birth status, sex, birthweight, Apgar scores, resuscitation, neonatal morbidity and congenital malformations (Day et al. 1997).

Health labour force

In 1990, the Australian Health Ministers' Advisory Council (AHMAC) commissioned the AIHW to develop national health labour force statistics about the major registrable health professions (AIHW 1998b). Since 1993, a survey of the medical labour force has been conducted each year in conjunction with the annual re-registration of medical practitioners. Information on both the nursing and pharmacist workforce is also obtained from a survey questionnaire sent out as part of the annual registration renewal process. For States and Territories where an annual registration renewal process is not conducted, or the survey is not conducted, estimates are made based on the best alternative information available.

The Health Insurance Commission (HIC) also maintains medical workforce information as part of its provider database. These data have been linked to Medicare patient data by the Department of Health and Family Services (DHFS), which enables useful data to be extracted on the relative location of doctors versus patients.

Child immunisation and health screening survey

In April 1995, the ABS conducted a child immunisation and health screening survey. Previous information on child immunisation was collected in the 1989–90 National Health Survey and the 1983 Children's Immunisation Survey.

The 1995 survey provided information on the coverage of children against diphtheria, tetanus, pertussis (whooping cough), poliomyelitis, measles, mumps, rubella and Hib (*Haemophilus influenzae* type b). The immunisation levels were calculated using the NHMRC Standard Childhood Vaccination Schedule, introduced in August 1994.

Nursing homes and hostels

Nursing homes and hostels data are available through the Nursing Home Payment System (NHPS) and Commonwealth Hostel Information Payment System (CHIPS). These are both held by the Commonwealth Department of Health and Family Services (DHFS). Data collected include a large range of demographic information including date of birth, sex, marital status, Indigenous status, country of birth, and residents' usual residence before admission.

Mental health

Only very limited national data are currently available on the incidence and prevalence of mental illness, and on the outcomes of care. Hospitalisation and death data relating to mental disorders provide some data on suicide and self-harm. The ABS 1995 National Health Survey provides estimates of the number of people suffering from a mental health condition either as a recent or long-term condition. The ABS National Survey of Mental Health and Wellbeing will provide information on the prevalence of mental health disorders, measures of mental health, functional impairment, service utilisation and exposure to risk (including social factors, physical health, mental health of parents and self-harm behaviours). This survey is being conducted in parts. The adult survey component was conducted in 1997; the child component is currently in the field.

Health information for Indigenous people

Health data for the Indigenous population is either inadequately reported or not reported at all (AHMAC & AIHW 1997). The capacity of Commonwealth, State and Territory governments to report on issues such as the health status, service use and access to services by Indigenous peoples is totally reliant on being able to accurately identify Indigenous clients (AHMAC & AIHW 1997). Without this ability, it is not possible to monitor changes in Indigenous health status, service use and access to services over time or to make accurate comparisons between Indigenous people living in different parts of Australia. It is also not possible to separate Indigenous Australians from other Australians in the RRMA categories or to make accurate comparisons between them.

Deficiencies in Indigenous health data occur in all data sources. As discussed above, only South Australia, Western Australia, the Northern Territory and the Australian Capital Territory are considered to have more than 90% coverage of Indigenous deaths for the National Mortality Database. Hospitalisation data, which can be used as an indicator of the morbidity of a population, is also considered to be deficient in the coverage between States and Territories. Population survey data, even from the large national surveys conducted by the ABS, such as the National Health Survey, do not provide reliable estimates for the Indigenous population. Ensuring a large and representative sample of the Indigenous community in surveys is important in providing reliable estimates of the Indigenous population. Collecting the health information also needs to be done in a manner appropriate to the Indigenous community being sampled (AHMAC & AIHW 1997).

The Aboriginal and Torres Strait Islander Information Plan (AHMAC & AIHW 1997) provides a set of recommendations aimed at overcoming the poor coverage of health and welfare data for the Indigenous population. Included among these recommendations is the inclusion of accurate Indigenous identification on all major health and related collections. These collections include vital statistics such as births and deaths, hospital separations, perinatal collections and cancer registrations. Another key recommendation is the commitment to regular Indigenous surveys at appropriate frequencies to ensure statistics of sufficient quality to enable national and State and Territory estimates to be derived. In response to these recommendations, the National Health Information Management Group is overseeing work by the Australian Bureau of Statistics, the Australian Institute of Health and Welfare and other organisations to develop a strategy to obtain better statistics on the Indigenous population.