

# 1 Introduction

*Australian Hospital Statistics 1999–00* continues the Australian Institute of Health and Welfare's series of annual summary reports describing the characteristics and activity of Australia's hospitals. This report follows previous annual information for the years 1993–94 to 1998–99 (AIHW 1997a, 1997b, 1998, 1999a, 2000a).

This series of reports has been based on data for the financial years 1993–94 to 1999–00 supplied to the Institute by the State and Territory health authorities. Hospital-level data are provided for the Institute's National Public Hospital Establishments Database, and cover resources, expenditure and revenue for public hospitals, and a summary of the services they provided to admitted and non-admitted patients. Patient-level data are provided for the Institute's National Hospital Morbidity Database for both public and private hospitals. Included are data on the diagnoses and other characteristics of admitted patients, and on the hospital care they receive.

The collection and reporting of the data in this report were undertaken by the Institute under the auspices of the Australian Health Ministers' Advisory Council through the National Health Information Agreement. Most of the data collected were as specified in the National Minimum Data Set for Institutional Health Care and data element definitions were as specified for 1999–00 in the *National Health Data Dictionary* Version 8.0 (National Health Data Committee 1999).

## This report

This report summarises 1999–00 data reported to the National Public Hospital Establishments Database and the National Hospital Morbidity Database. This chapter describes the two databases and briefly discusses their overall limitations.

Chapter 2 presents hospital performance indicator data, drawn from both the databases and a number of other sources. The indicators are based on those initially developed by the National Health Ministers' Benchmarking Working Group and published in the Working Group's reports. Indicators for previous years have also been used by the National Health Performance Committee in their report on health sector performance indicators (National Health Performance Committee 2000) and by the Steering Committee for the Review of Commonwealth/State Service Provision in their reports of government service provision (SCRCSSP 2001).

Chapter 3 summarises other data on public hospitals from the National Public Hospital Establishments Database.

Chapter 4 uses both databases to provide an overview of activity in Australian hospitals based on establishment characteristics.

Chapters 5 to 10 present a range of patient-based information from the National Hospital Morbidity Database, including information on the principal diagnoses of the patients (Chapter 7), the procedures they underwent (Chapter 8) and the Australian Refined Diagnosis Related Groups for each hospital separation (Chapter 10).

In all chapters, unless otherwise specified:

- public acute hospitals and public psychiatric hospitals are included in the public hospital (public sector) category, and all public hospitals other than public psychiatric hospitals are included in the public acute hospital category.
- private psychiatric hospitals, private free-standing day hospital facilities and other private hospitals are included in the private hospital (private sector) category.

The appendices provide more detailed technical notes on the data and analyses than are included in the chapters. In particular, Appendix 3 includes notes on the presentation of data in the tables and Appendix 6 includes the population estimates used for population rate calculations.

Summary information on the Department of Health and Aged Care's National Hospital Cost Data Collection is provided in Appendix 8. This collection is the source of Australian Refined Diagnosis Related Group (AR-DRG) cost weight and average cost information used in Chapters 2, 4, 5 and 10.

## **The National Public Hospital Establishments Database**

The National Public Hospital Establishments Database holds a record for each public hospital in Australia. It is collated from the routine administrative collections of public acute hospitals, psychiatric hospitals, drug and alcohol hospitals and dental hospitals in all States and Territories.

The collection only covers hospitals within the jurisdiction of the State and Territory health authorities. Hence, public hospitals not administered by the State and Territory health authorities (for example, Department of Defence hospitals, some hospitals run by correctional authorities in some jurisdictions and those in off-shore territories) are not included. A list of the hospitals included in the database for 1999-00 is provided on the Internet (see Appendix 5).

Information is included on hospital resources (beds, staff and specialised services), recurrent expenditure, non-appropriation revenue and services to admitted and non-admitted patients. Data on capital expenditure and depreciation are also collected for each jurisdiction. The collection is based on the establishment-level activity and resource data elements, and the system-level data elements, of the National Minimum Data Set for Institutional Health Care.

Validation processes for 1999-00 data involved detailed consultation by the Institute with data providers in each State and Territory, to ensure data quality. Nevertheless, the collection does have some limitations and missing values.

## **The National Hospital Morbidity Database**

The National Hospital Morbidity Database is a compilation of electronic summary records collected in admitted patient morbidity data collection systems in Australian hospitals. Data relating to admitted patients in almost all hospitals are included: public acute hospitals, public psychiatric hospitals, private acute hospitals, private psychiatric hospitals and private free-standing day hospital facilities. Lists of the public and private hospitals included in the database for 1999-00 are provided on the Internet (see Appendix 5).

Public sector hospitals that were not included were those not within the jurisdiction of a State or Territory health authority (hospitals operated by the Department of Defence or correctional authorities, for example, and hospitals located in off-shore territories). In

addition, data were not supplied for one small 'outpatient clinic' in Queensland, a forensic hospital in Tasmania, and a mothercraft hospital in the Australian Capital Territory.

Private sector hospitals that were not included were 17 free-standing day hospital facilities and one other private hospital in Victoria, all private free-standing day hospital facilities in the Australian Capital Territory, and the one private hospital in the Northern Territory. For South Australia, data were not available for three private free-standing day hospital facilities (one of which commenced operation in September 1999) and data were missing for March to June 2000, for May to June 2000 and for June 2000, respectively, for three others. For Tasmania, data were not available for one private free-standing day hospital facility and one other private hospital, and were missing for April to June 2000, December 1999 to June 2000, January and February 2000 and June 2000, respectively, for four other private hospitals.

The data supplied for the National Hospital Morbidity Database were based on the patient-level data items of the National Minimum Data Set for Institutional Health Care. They include demographic, administrative and length of stay data, and data on the diagnoses of the patient, the procedures they underwent in hospital and external causes of injury and poisoning. Information on the quality of the diagnosis, procedure and external cause data, coded using the *International Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM)* (NCCH 1998), is included in Appendix 3.

Records for 1999–00 are for hospital separations (discharges, transfers, deaths or changes in type of episode of care) in the period 1 July 1999 to 30 June 2000. Data on patients who were admitted on any date before 1 July 1999 are included, provided that they also separated between 1 July 1999 and 30 June 2000. A record is included for each separation, not for each patient, so patients who separated more than once in the year have more than one record in the database.

Most data providers were able to supply records for separations of patients aged 9 days or less on admission (*Newborn* episodes of care) with no 'qualified days' (see Glossary). These patients do not meet admission criteria for all purposes, so they have been excluded from this report, except as specified in Chapter 5. Records for hospital boarders were also excluded, as they are not admitted patients.

A process of validation of the morbidity database was jointly undertaken by the Institute and the data providers to ensure data quality. When data were supplied using non-standard definitions or classifications, the Institute mapped them to the *National Health Data Dictionary* definitions, where possible, in collaboration with the data providers. Further information on the mapping of data for *Newborn* episodes of care (those for patients aged 9 days or less on admission) and of data for the area of usual residence of the patients is presented in Appendix 3. This Appendix also includes a description of variation among the States and Territories in the reporting of hospital in the home care.

## Limitations of the data

Appropriate sections of this report provide notes on the major variations from the *National Health Data Dictionary* definitions, substantial differences in scope, the effects of different populations and other major impacts on data quality. The following general notes should also be used to guide interpretation of the data.

- Although the *National Health Data Dictionary* definitions form the basis of the two databases, the actual definitions used may have varied among the data providers and from one year to another. In addition, admission practices and the detail of the scope of the data collections may vary among the jurisdictions and from year to year.

Comparisons between the States and Territories, reporting years and hospital sectors should therefore be made with reference to the accompanying notes.

- Not all private hospital separations are included in the National Hospital Morbidity Database so the counts of private hospital separations presented in this report are likely to be underestimates of the actual counts. In 1998–99, the National Hospital Morbidity Database reported 110,941 (5.6%) fewer separations than the Australian Bureau of Statistics' Private Health Establishments Collection, which has wider coverage (see Appendix 3). At the time of publication of this report, Private Health Establishments Collection data for 1999–00 were not available. When they become available shortly after the publication of this report, an estimate will be made of underenumeration of separations in the National Hospital Morbidity Database for 1999–00, by comparing it with the 1999–00 Private Health Establishments Collection data. This estimate will be included with *Australian Hospital Statistics 1999–00* on the Internet.
- Each State and Territory has a demographic structure that differs from other jurisdictions, and factors such as age and Aboriginal and Torres Strait Islander status can have an effect on the nature of health care delivery amongst jurisdictions. For example, the average length of stay in hospital, or the frequency of particular procedures, can be affected by the demographic composition of the population.
- Although data on separations from the National Hospital Morbidity Database can reflect an aspect of the burden of disease in the community, they do not usually provide measures of the incidence or prevalence of conditions. This is because not all persons with a type or degree of illness are treated in hospital and there are multiple admissions for some chronic conditions. Also, the number and pattern of hospitalisations can be affected by differing admission practices, and differing levels and patterns of service provision.

## **New presentation of data on procedures and external causes**

For 1999–00 the data element *Procedure* superseded the previous data elements *Principal procedure* and *Additional procedure* for the National Hospital Morbidity Database. Because of the discontinuation of the concept of a *Principal procedure* amongst the reported procedures, the data on procedures presented in this report differ from those presented in previous reports in this series, which were mostly based on principal procedures. As more than one procedure can be reported for each separation, and all have equal 'status', there are three types of data presented:

- data on the separations for which there was one or more procedures reported within the group of procedures (an ICD-10-AM procedure block, group of blocks or chapter) being considered, regardless of whether the procedure was the first reported or another procedure. Because more than one procedure can be reported for each separation, the counts for these data are not additive, so totals in the tables will not usually equal the sum of counts in the rows.
- data on the separations for which a procedure within a group of procedures being considered was the first reported procedure. These data have been included in some tables to enable some comparison with previous reports. Although the data elements changed, the method of coding procedures remained the same, with the order of codes determined using the following hierarchy: procedures performed for the treatment of the principal diagnosis; procedures performed for treatment of additional diagnoses; diagnostic/exploratory procedures related to the principal diagnosis; and

diagnostic/exploratory procedures related to additional diagnoses. Hence, 1999–00 data on the first reported procedure will be largely comparable with data from previous years reported for principal procedures.

- data on the total number of procedures reported. For these data, all procedures within a group of procedures being considered are counted, even if there are more than one reported for a separation.

Similarly, one or more external causes of injury or poisoning can be reported for each separation in the National Hospital Morbidity Database. In previous reports in this series, data were presented only on first reported external causes for separations for which the principal diagnosis was an injury or poisoning. However, external causes can be reported for principal diagnoses other than those in the ICD-10-AM injury and poisoning chapter, and for additional diagnoses in the injury and poisoning chapter and elsewhere. In addition, although, in the past, only some States and Territories had the capacity to report more than one external cause for each separation, they all now have this capability, so State and Territory data on external causes are more comparable than in the past. Hence, the reporting of external causes for this report has been revised, with three types of data presented:

- data on the separations for which there was one or more external causes reported within the group of external causes (an ICD-10-AM block or chapter) being considered, regardless of whether the external cause was the first reported or another external cause. Because more than one external cause can be reported for each separation, the counts for these data are not additive, so totals in the tables will not usually equal the sum of counts in the rows.
- data on the separations for which an external cause within a group of external causes being considered was the first reported external cause, and the number of those separations for which an injury and poisoning was reported as the principal diagnosis. Both these types of data have been included in some tables to enable some comparison with previous reports.
- data on the total number of external causes reported. For these data, all external causes within a group of external causes being considered are counted, even if there are more than one reported for a separation.

## **This report and additional data on the Internet**

This report is available on the Internet at

**<http://www.aihw.gov.au/publications/hse/ahs99-00/index.html>**

The text of the report is presented in PDF format and the tables as downloadable Excel spreadsheets.

This site also includes lists of hospitals that contributed to the databases for 1999–00 (see Appendix 5) and additional data from the National Hospital Morbidity Database, in Excel spreadsheets. The spreadsheets provide tables that present further detail on diagnoses, procedures and AR-DRGs version 4.1 for admitted patients.

A couple of months after this report is published, the Internet site will also include updates for the tables in Chapters 2, 4, 5 and 10 that use AR-DRG cost weight and average cost information. At the time of publication, 1999–00 cost weights and average costs were not available so 1998–99 cost weight data were used instead. Updates will also be provided for the tables in Chapters 2 and 3 and in Appendix 3, which use data on private hospitals

from the Private Health Establishments Collection. These data were also not available when this report was published.

More information on the Internet tables is in Chapters 7, 8 and 10 and in Appendices 1 and 5.

### **Interactive data cubes**

Also included on the site are interactive cubes of data from the National Hospital Morbidity Database (<http://www.aihw.gov.au/hospitaldata/datacubes/index.html>) which allow users to specify tables and graphs as required. There are four data cubes currently available:

- Principal diagnoses for 1993–94 to 1997–98 (using ICD-9-CM to classify diagnoses)
- Principal diagnoses for 1998–99 and 1999–00 (using ICD-10-AM to classify diagnoses)
- Australian Refined Diagnosis Related Groups version 4.0/4.1 for 1997–98 to 1999–00
- Principal diagnoses for separations including specialised psychiatric care for 1998–99 (using ICD-10-AM to classify diagnoses)

Later in 2001, data cubes covering procedure and external cause information will be added and the cube relating to specialised psychiatric care will be updated to include 1999–00 data.

Each cube includes information on the number of separations (same day and overnight), patient days and average length of stay, by age group and sex and year of separation, for each diagnosis or AR-DRG. The cube on specialised psychiatric care also includes data on the mental health legal status of the patient for each separation.