

1 Introduction

Australian hospital statistics 2006–07 continues the Australian Institute of Health and Welfare's (AIHW) series of summary reports describing the characteristics and activity of Australia's hospitals. Reports have been published previously for the financial years 1993–94 to 2006–07 (AIHW 1997a, 1997b, 1998, 1999, 2000, 2001, 2002, 2003, 2004a, 2005a, 2006a, 2007a).

This series of reports has been based on data supplied to the AIHW by the state and territory health authorities. Data are provided for the AIHW's:

- National Public Hospital Establishments Database, covering resources, expenditure and revenue for public hospitals
- National Hospital Morbidity Database, covering the diagnoses and other characteristics of admitted patients, and the care they receive in public and private hospitals
- National Non-admitted Patient Emergency Department Care Database, covering emergency department care and waiting times for selected public hospitals
- National Elective Surgery Waiting Times Data Collection, covering waiting times and other characteristics of elective surgery in public hospitals
- National Outpatient Care Database, covering services provided to non-admitted, non-emergency department patients in outpatient clinics of selected public hospitals.

The collection and reporting of the data in this report were undertaken by the AIHW 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 Sets for Public Hospital Establishments, Admitted Patient Care, Non-admitted Patient Emergency Department Care, Elective Surgery Waiting Times and Outpatient Care. The data element definitions are as specified in the *National health data dictionary version 12* (NHDC 2003), *version 12 supplement* (AIHW 2004b) and *version 13* (HDSC 2006). Some of the terms relating to the use of hospitals are detailed in Box 1.1 and others are outlined in the Glossary.

This report

This chapter briefly describes the major data sources.

Chapter 2 presents an overview of hospitals and hospital activity in Australia. This includes a summary of the numbers of hospitals and beds and of non-admitted patient care. It also includes separation statistics for admitted patients based on the state or territory of the hospital, and whether the hospital was public or private.

Chapter 3 presents further data on the characteristics of public hospitals, including the number and type of hospitals, available beds, staff employed, specialised services, expenditure and revenue.

Chapter 4 presents hospital performance indicator data drawn from the AIHW's hospitals databases and other sources. The indicators have been presented as they relate to the National Health Performance Framework (NHPC 2001).

Chapter 5 presents information on non-admitted patient care provided in public hospital emergency departments and outpatient clinics.

Box 1.1: Summary of terms and data sources relating to the use of hospitals

Admitted patients

Statistics on admitted patients are compiled when an admitted patient (a patient who undergoes a hospital's formal admission process) completes an episode of admitted patient care and 'separates' from the hospital. This is because most of the data on the use of hospitals by admitted patients are based on information provided at the end of the patients' episodes of care, rather than at the beginning. The length of stay and the procedures carried out are then known and the diagnostic information is more accurate.

Separation is the term used to refer to the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

For each separation, patients are assigned a principal diagnosis, which is the diagnosis established after study to be chiefly responsible for occasioning the patient's episode of admitted patient care (see Chapter 9). If applicable, procedures are also reported (see Chapter 10). These can be surgical or non-surgical, and therapeutic, diagnostic or of a patient-support nature (for example anaesthesia).

Patient day means the occupancy of a hospital bed (or chair in the case of some same-day patients) by an admitted patient for all or part of a day.

The state and territory health authorities compile information on episodes of admitted patient care in public and private hospitals and supply it to the AIHW for collation into the National Hospital Morbidity Database. Data on waiting times for elective surgery in public hospitals are also provided.

Although hospital separation data are a valuable source of information about hospital care, they have limitations as indicators of ill health. Sick people who are not admitted to hospital are not counted and those who are admitted more than once are counted on each occasion. Hospital separation data are also affected by variations in admission practices, and in the availability of and access to hospitals.

Non-admitted patients

Hospitals provide services to non-admitted patients through emergency departments, outpatient clinics and a range of other specialised services (see chapters 2 and 5). Summary information on these services is collated nationally for public hospitals by the AIHW and for private hospitals by the Australian Bureau of Statistics (ABS).

An occasion of service for a non-admitted patient is defined as any examination, consultation, treatment or other service provided to a patient in each functional unit of a health service establishment each time the service is provided. National data are based on counts of occasions of service, categorised into broad clinic- or service-based groupings.

Definitions used for non-admitted patient hospital care are not completely uniform among the states and territories, and have varied over time. Existing national systems for counting and classifying this care are being revised with the aim of improving consistency and comparability. For example, categorisation of occasions of service data using an expanded range of clinic types began on 1 July 2005 in selected public hospitals.

More detailed information is collected on occasions of service provided in emergency departments in selected public hospitals and provided for the National Non-admitted Patient Emergency Department Care Database.

Chapter 6 presents summary data on elective surgery waiting times for patients admitted to public hospitals.

Chapter 7 presents administrative data for episodes of admitted patient care in public and private hospitals, including patient election status and funding source; overall type of care received; urgency of admission; and modes of admission and separation.

Chapter 8 presents demographic information on episodes of admitted patient care, including separations and patient days by age group, sex, Indigenous status, country of birth, area of usual residence and quintile of socioeconomic advantage/disadvantage.

Chapters 9 to 12 present a range of information on episodes of admitted patient care, including the principal diagnoses of the patients (Chapter 9), the procedures they underwent (Chapter 10), external causes of injury and poisoning (Chapter 11), and the Australian Refined Diagnosis Related Groups (AR-DRGs) for the hospital separations (Chapter 12).

Appendixes 1 and 2 provide technical notes on the data and analyses additional to those in the chapters. In particular, Appendix 1 includes notes on the presentation of data in the tables and the population estimates used for population rate calculations, and notes on major aspects of the quality and comparability of the hospital morbidity data. Appendix 2 provides information on the hospitals covered by each of the data sources and on the hospitals categorised as public and private.

Summary information from the Department of Health and Ageing's 2005–06 National Hospital Cost Data Collection is provided in Appendix 3. This collection is the source of AR-DRG cost weight and average cost information used in chapters 2, 4, 7 and 12.

Information on episodes of admitted patient care is presented using Service Related Groups in Appendix 4. Appendix 5 presents detailed information on potentially preventable hospitalisations. Appendix 6 relates to the Department of Health and Ageing's *State of our public hospitals report*. It notes the major differences between the analysis methods used for that report and for *Australian hospital statistics 2006–07*.

Throughout the report, unless otherwise specified:

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

In addition, unless otherwise specified, statistics from the National Hospital Morbidity Database exclude separations for which the care type was reported as *Newborn* and for which no qualified days were reported (see Chapter 7), and records for *Hospital boarders* and *Posthumous organ procurement* (see Appendix 1).

Although the *National health data dictionary* definitions form the basis of the databases, the actual definitions used may have varied among the data providers and over time. In addition, the detail of the scope of the data collections may vary. Comparisons between the states and territories, reporting years and hospital sectors should therefore be made with reference to the accompanying notes.

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.

Essentially all public hospitals were included for 2006–07. However, 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, some hospitals run by correctional authorities in some jurisdictions and those in offshore territories) are not included. Further information about the hospitals included in the database for 2006–07 is in Appendix 2.

The collection is based on the National Minimum Data Set for Public Hospital Establishments. Information is included on hospital resources (beds, staff and specialised services), recurrent expenditure (including depreciation), non-appropriation revenue and services to non-admitted patients (Box 1.1). Summary information on data quality and comparability is presented in Chapter 3.

The National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals (Box 1.1). The database contains data relating to admitted patients in almost all hospitals, including public acute hospitals, public psychiatric hospitals, private acute hospitals, private psychiatric hospitals and private free-standing day hospital facilities.

All public hospitals were included for 2006–07, with minor exceptions. The great majority of private hospitals were also included, although there were a few not included, mainly free-standing day hospital facilities. Counts of private hospital separations presented in this report are therefore likely to be underestimates of the actual counts. In 2005–06, the National Hospital Morbidity Database reported 78,894 (2.8%) fewer separations than the ABS's Private Health Establishments Collection (ABS 2007), which may have wider coverage. Further information about the public and private hospitals included for 2006–07 and previous years is in Appendix 2.

The data supplied are based on the National Minimum Data Set for Admitted Patient Care and include demographic, administrative and length of stay data, and data on the diagnoses of the patients, 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, classified using the fifth edition of the *International statistical classification of diseases and related health problems, 10th revision, Australian modification* (ICD-10-AM)(NCCH 2006) is included in Appendix 1.

Records for 2006–07 are for hospital separations (discharges, transfers, deaths or changes in care type) in the period 1 July 2006 to 30 June 2007. Data on patients who were admitted on any date before 1 July 2006 are included, provided that they also separated between 1 July 2006 and 30 June 2007. 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.

Patient day statistics can be used to provide information on hospital activity that, unlike separation statistics, account for differences in length of stay. As the database contains records for patients separating from hospital during the reporting period (1 July 2006 to 30 June 2007), this means that not all patient days reported will have occurred in that year. It is expected, however, that patient days for patients who separated in 2006–07, but who were admitted before 1 July 2006, will be counterbalanced overall by the patient days for patients in hospital on 30 June 2007 who will separate in future reporting periods. The numbers of separations and patient days can be a less accurate measure of the activity for establishments such as public psychiatric hospitals, and for patients receiving care other than acute care, for which more variable lengths of stay are reported. Information on some aspects of the quality and comparability of the data is presented in Appendix 1. The notes above and those in Box 1.1 should also be used to guide interpretation of the data, as should the additional notes presented in Chapter 1 of *Australian hospital statistics 2002–03* (AIHW 2004a).

The National Non-admitted Patient Emergency Department Care Database

The National Non-admitted Patient Emergency Department Care Database includes episode-level data on non-admitted patients treated in the emergency departments of selected public hospitals. The selected public hospitals for each year are those that were classified as *Principal referral and Specialist women's and children's hospitals* and *Large hospitals* in *Australian hospital statistics* in the preceding year. For example, hospitals contributing the database for 2006–07 were classified as *Principal referral and Specialist women's and children's hospitals* and *Large hospitals* in *Australian hospital statistics 2005–06* (AIHW 2007a). Some states and territories were also able to provide data for hospitals in other peer groups, so that coverage was about 78% of emergency department occasions of service overall. More information about the coverage of this data collection (which is more complete for larger hospitals) for 2006–07 is presented in Chapter 5 and Appendix 2.

The data supplied are based on the National Minimum Data Set for Non-admitted Patient Emergency Department Care. They include data on the type and length of emergency department visit, triage category, waiting times, patient demographics, arrival mode and departure status. The data presented in this report are for patients treated between 1 July 2006 and 30 June 2007. Summary information on the quality and comparability of the data is included in Chapter 5.

All states and territories provided hospital-level data on accident and emergency occasions of service for the National Public Hospital Establishments Database. These data have wider coverage than data provided for the National Non-admitted Patient Emergency Department Care Database, as detailed in Chapter 5 and Appendix 2.

The National Elective Surgery Waiting Times Data Collection

The state and territory health authorities have provided episode-level data on elective surgery waiting times to the AIHW's National Elective Surgery Waiting Times Data Collection. The data presented in this report are for patients admitted for elective surgery between 1 July 2006 and 30 June 2007.

The National Elective Surgery Waiting Times Data Collection relates to public acute care hospitals. All public hospitals that undertake elective surgery were generally included. More detail on the coverage of this collection, including a list of hospitals in the data collection for 2006–07, is included in Appendix 2. Summary information on the quality and comparability of the data is included in Chapter 6.

The National Outpatient Care Database

The National Outpatient Care Database includes counts of individual occasions of service and group sessions by outpatient clinic type for selected public hospitals. The selected hospitals for each year are those that were classified as *Principal referral and Specialist women's and children's hospitals* and *Large hospitals* in *Australian hospital statistics* in the preceding year. For example, public hospitals classified as *Principal referral and Specialist women's and children's hospitals* and *Large hospitals* in *Australian hospital statistics 2005–06* provided 2006–07 data for the National Outpatient Care Database (AIHW 2007a). Some states and territories were also able to provide data for hospitals in other peer groups, so that coverage was about 76% of individual outpatient clinic occasions of service overall. More information about the coverage of this data collection (which is more complete for larger hospitals), including a list of hospitals included for 2006–07, is presented in Chapter 5 and Appendix 2.

The data supplied are based on the National Minimum Data Set for Outpatient Care. They include data on the number of individual occasions of service and group sessions, by clinic type and establishment. The data presented in this report are for patients treated between 1 July 2006 and 30 June 2007. Summary information on the quality and comparability of the data is included in Chapter 5.

All states and territories also provided hospital-level data on outpatient clinic occasions of service for the National Public Hospital Establishments Database. These data have wider coverage than data provided for the National Outpatient Care Database, as detailed in Chapter 5 and Appendix 2.

This report and additional data on the Internet

This report is available on the Internet at <www.aihw.gov.au>. The text of the report is presented in PDF format and the tables are presented as downloadable Excel spreadsheets. This site also includes additional data, in Excel spreadsheets, on diagnoses, procedures and AR-DRGs for admitted patients, and the data used to generate graphs in this report. Some of the report's tables are presented with more detail, such as using 5-year age groups rather than 10-year age groups (see Chapter 8). More information on the Internet tables is in chapters 8, 9, 10 and 12 and in Appendixes 1, 2, 4 and 5.

After this report is published, the Internet site will also include updates for the tables in chapters 2, 4, 7 and 12 that use AR-DRG cost weight and/or average cost information. At the time of writing, 2006–07 cost weights and average costs were not available. Therefore, 2005–06 public sector cost weights based on AR-DRG version 5.0 were used for the public and private sectors in most analyses requiring the application of cost weights. In two tables, 2002–03 private cost weights based on AR-DRG version 4.2 were used for the private sector (tables 2.3 and 2.4). Updates will also be provided for the tables in chapters 2 and 4 and in Appendix 2, which use data on private hospitals, collated in the ABS's Private Health Establishments Collection. These data were also not available at the time of writing this report.

Interactive data cubes

Also included on the site are interactive cubes of data from the National Hospital Morbidity Database which allow users to specify tables and graphs as required:

- Principal diagnoses for 1993–94 to 1997–98 (using ICD-9-CM to classify diagnoses)
- Principal diagnoses for 1998–99 to 2006–07 (using ICD-10-AM to classify diagnoses)
- Principal diagnoses for mental health-related separations for 2001–02 to 2004–05 (using ICD-10-AM to classify diagnoses)
- AR-DRGs version 4.0/4.1/4.2 for 1997–98 to 2004–05
- AR-DRGs version 5.0/5.1 for 1998–99 to 2006–07
- Procedures for 2000–01 and 2001–02 (using ICD-10-AM 2nd edition to classify procedures)
- Procedures for 2002–03 and 2003–04 (using ICD-10-AM 3rd edition to classify procedures)
- Procedures for 2004–05 and 2005–06 (using ICD-10-AM 4th edition to classify procedures)
- Procedures for 2006–07 (using ICD-10-AM 5th edition to classify procedures).

Each principal diagnosis and AR-DRG 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 mental health-related care also includes data on the mental health legal status of the patient and hospital sector for each separation. The procedures cubes include information on numbers of procedures by age group, sex, year of separation and whether undertaken on a same-day basis.