1 Introduction

Australian Hospital Statistics 1996–97 follows the Australian Institute of Health and Welfare's earlier Hospital Utilisation and Costs Study reports and the most recent report in this series, *Australian Hospital Statistics 1995–96* (AIHW 1997a). 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 (NHIA).

The data were supplied to the Institute by the State and Territory health authorities, and by the Department of Veterans' Affairs for the hospital it operates in New South Wales. 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 1996–97 in the *National Health Data Dictionary, Version 5.0* (NHDC 1996). Data were supplied in two parts: one at establishment level for public hospitals (the National Public Hospital Establishments Database) and the other at patient level for public and private hospitals (the National Hospital Morbidity Database).

AHMAC has requested that the Institute compile national hospital statistics reports for the past decade, beginning with the 1985–86 Hospital Utilisation and Costs Study report (Harvey & Mathers 1988). The national hospital data collections and reports have been able to be much improved, with developments in data definitions and improvements in data quality since the initial implementation of the National Minimum Data Set for Institutional Health Care in hospitals throughout Australia in 1989.

This report

This report summarises data in the 1996–97 National Public Hospital Establishments and National Hospital Morbidity Databases (described in detail below). The National Public Hospital Establishments Database is the source of most of the data in Chapters 2 and 3, and the National Hospital Morbidity Database forms the basis of the patient-based information in Chapters 5 to 10. Chapter 4 uses both databases to provide an overview of activity in Australian hospitals based on establishment characteristics. In all chapters, unless otherwise specified:

- the Department of Veterans' Affairs hospital in New South Wales and the public psychiatric hospitals are included in the public hospital (public sector) category; and
- private free-standing day hospital facilities are included in the private hospital (private sector) category.

Hospital performance indicators

New to the *Australian Hospital Statistics* series are several tables reporting, in a more timely manner, comparative information on hospital performance that for previous years have been reports of the National Health Ministers' Benchmarking Working Group and the Steering Committee for the Review of Commonwealth/State Service Provision. They are presented within several chapters, notably as Table 3.1 (cost per casemix-adjusted

separation for public acute hospitals), Table 3.3 (average salaries for different staffing categories), Table 8.1 (separation statistics for 'sentinel', high volume, often elective procedures) and Table 10.1 (average length of stay statistics for high volume Australian National Diagnosis Related Groups).

The new tables included in this report provide data on performance indicators that are mainly able to be derived from the National Public Hospital Establishments Database and the National Hospital Morbidity Database. The data relate to the activity and resources of public institutions, and there are also some data presented for private hospitals and for private patients in public hospitals. Through inclusion in *Australian Hospital Statistics 1996–97,* these performance indicator data are released earlier than has been the case in previous years. These additional tables enable this publication to report more comprehensively on the nature of hospitals and the services they provide than previous reports in this series.

A framework for reviewing the performance of public acute hospitals has been developed by the National Health Ministers' Benchmarking Working Group (NHMBWG 1996) and is consistent with that reported by the Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP 1997, 1998). The reports of these groups have included information for those indicators for which data have been available. For some performance indicators, not all the required data for reporting against the performance framework have been available from the Institute's hospital data collections or other routinely compiled data sets. In some cases in the past, *ad hoc* requests for these data were made of States and Territories, but the lack of quality and comparability of these data tended to reduce the overall quality of the performance indicator reports which incorporated them. Thus, since there is no systematic collection process for data for these indicators, they have not been incorporated into this report.

Those indicators that can be derived from data collected through the NHIA process have been included in the current report. The available measures of the effectiveness of acute hospital service delivery include:

- the number of accredited hospitals, and the proportion of beds in accredited hospitals;
- the number of separations per 1,000 population, by patient accommodation status, in public acute and private hospitals and;
- separation rates for sentinel procedures, for public and private hospitals.

Indicators available for the current report that provide a measure of hospital efficiency include:

- cost per casemix-adjusted separation in public acute hospitals;
- average salaries for medical and non-medical staff in public acute hospitals,
- full time equivalent staff per 1,000 separations and staff per 1,000 patient days, public hospitals and;
- average length of stay for AN-DRGs with the highest number of separations.

Improving data quality is a key strategy in the development of performance reporting in the hospital sector. Those indicators for which regular high quality data are available have benefited from collaborative data development and standardisation processes which health agencies have had in place for many years. However, data for a substantial number of performance indicators required for reporting under the agreed framework remain unavailable for reporting. The effort required for implementation of a new performance indicator is not trivial in a national service delivery system as large and as complex as exists in the health services field. The NHIA provides an established process for endorsement of national data standards and for the inclusion of new data elements in national minimum

data sets. Through this process, the Institute is initiating developmental work for the future reporting of a wider range of hospital sector performance indicators.

The National Public Hospital Establishments Database

The National Public Hospital Establishments Database is collated from the routine administrative collections of acute hospitals, psychiatric hospitals, drug and alcohol hospitals and dental hospitals in all jurisdictions. The Department of Veterans' Affairs hospital operated in New South Wales is also included in the 1996–97 database and is reported with New South Wales data. The database does not include information on private hospitals, and excludes hospitals not within the jurisdiction of the State and Territory health authorities (such as those run by correctional authorities in some jurisdictions and those in off-shore territories).

The National Public Hospital Establishments Database holds a record for each public hospital in Australia including information 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 1996–97 data involved detailed consultation with data providers in each State and Territory, to ensure data quality. Nevertheless, the collection does have some limitations and missing values; although the data collections are based on national data item definitions, in some cases the actual definitions used may have varied among the data providers. The collection is subject to ongoing data development, further improvements in the information systems of the data providers and extensive checking and analysis by the Institute and by the data providers.

The National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of electronic summary records collected in 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 (hospitals operated by the Department of Defence, for example, and hospitals located in off-shore territories). In addition, for 1996–97, data were incomplete for three small district hospitals in Tasmania. They were not available for the one private hospital in the Northern Territory, the private free-standing day hospital facilities in the Australian Capital Territory and two private free-standing day hospital facilities in Tasmania.

The 1996–97 coverage continues the improvement in the coverage of the morbidity data collection over recent years. In 1995–96, public psychiatric morbidity data were supplied for the first time, however, Queensland was unable to supply data for that year. Prior to that, additional private hospital data had not been supplied, most recently for Victoria for 1993–94 and 1994–95. With respect to the public psychiatric hospitals, the scope of the morbidity data collection for the public sector now corresponds to that of the National Public Hospital Establishments Database.

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. 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.

Boarders were not within the scope of the collection, as they are not admitted patients, so records for them were removed from the database in consultation with the data providers. Records for separations of unqualified neonates (see Glossary) were supplied by all data providers and included in the database. However, as they are also not normally regarded as admitted patients, they have been excluded from all the data presented in this report, except where specified. The exception was for the private hospitals in the Australian Capital Territory, for which unqualified neonates were not able to be identified.

Records for 1996–97 are for hospital separations (discharges, transfers, deaths or changes in type of episode of care) in the period 1 July 1996 to 30 June 1997. Data on patients who were admitted on any date before 1 July 1996 are included, provided that they also separated between 1 July 1996 and 30 June 1997. 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.

Although data on separations can reflect an aspect of the burden of disease in the community, they do not usually provide measures of the incidence of conditions. This is because not all persons with a certain condition are treated in hospital and the number and pattern of hospitalisations can be affected by differing admission practices, differing levels and patterns of service provision and multiple admissions for some chronic conditions, in addition to the differing patterns of morbidity in the population.

Limitations 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, fine details of the scope of the data collections may vary from one jurisdiction to another. Comparisons between the Databases, the States and Territories, reporting years and hospital sectors should therefore be made with caution.

Each State and Territory has a particular demographic structure that differs from other jurisdictions. Population factors such as age and Indigenous status can have a substantial effect on the nature of health care delivery amongst jurisdictions. For example, the average length of stay in hospital, or the frequency of different procedures, can be affected by the demographic composition of the population in a particular region or jurisdiction.

The major variations from the *National Health Data Dictionary* definitions, major differences in scope, the effects of different populations and other major impacts on data quality have been noted within this report.

Access to additional data on the Internet

This report is also available on the Internet and additional data can also be accessed through the Institute's home page at http://www.aihw.gov.au.

Note: Australian Casemix Report on Hospital Activity

Comprehensive reports focusing on the AN-DRG classification were published as the *Australian Casemix Report on Hospital Activity* series by the Commonwealth Department of

Health and Family Services for the years 1991–92 to 1995–96. Although this publication has been discontinued, the Department will make updates of some of the tables available on the Internet. Details are at http://www.health.gov.au/casemix/report/announce.htm.

The tables on the Department's internet site will be derived from the Department's National Hospital Morbidity (Casemix) Database. This database may not exactly correspond with the National Hospital Morbidity Database at the Australian Institute of Health and Welfare and, in addition, the scope of the tables may differ from the scope of the tables presented in this report. Data in the Department's tables will therefore not correspond exactly to data presented in this report.

The Institute and the Department are working to ensure that, from 1997–98, there is a coordinated approach to compilation of the two databases so that the resulting data sets are as equivalent as possible.