# Appendix 1: Technical appendix

This appendix covers:

- definitions
- data presentation
- analysis methods
- data quality and comparability
- cost per casemix-adjusted separation analysis
- relative stay index analysis
- condition onset flag data.

## Definitions

If not otherwise indicated, data elements were defined according to the 2007–08 definitions in the *National health data dictionary, version 13* (HDSC 2006) (summarised in the *Glossary*).

## Data presentation

Except as noted below, the totals in tables include data only for those states and territories for which data were available, as indicated in the tables. For example, for some tables and figures dealing with Indigenous status, data have been presented only for selected states and territories, and the totals in these tables do not include the data for the other states and territories (tables 8.9, 9.22 and 10.20, and figures 9 and 8.1).

Other exceptions relate to tables in which data were not published for confidentiality reasons (for private hospitals in Tasmania, the Australian Capital Territory and the Northern Territory), or because only one public hospital was represented in the cell, or because a proportion related to a small number of events and was therefore not very meaningful.

Private hospital data are suppressed for a particular diagnosis, procedure or AR-DRG where:

- there are fewer than three reporting units,
- there are three or more reporting units and one contributed more than 85% of the total separations, or
- there are three or more reporting units and two contributed more than 90% of the total separations.

Data on the length of stay have been suppressed if there were fewer than 10 separations in the category being presented (50 separations in Table 4.11). Data on elective surgery waiting times were suppressed if there were fewer than 10 elective surgery admissions in the category being presented. The abbreviation 'n.p.' has been used in these tables to denote these suppressions. For these tables, the totals include the suppressed information.

Throughout the publication, percentages may not add up to 100.0 because of rounding. Percentages and population rates printed as 0.0 or 0 may denote less than 0.05 or 0.5, respectively.

For the majority of tables in this report, data are presented by the state or territory of the hospital, not by the state or territory of usual residence of the patient. The exceptions are tables 4.5, 4.6, 4.7, 8.11, 9.19 and A5.1, which are based on data on the state or territory of usual residence. In addition, the state or territory of usual residence of the patient is reported against the state or territory of hospitalisation in tables 7.7 to 7.10.

# Analysis methods

### State or territory of usual residence

For tables presented by the state or territory of usual residence of the patient, the totals include unknown residence area (within a known state) but exclude overseas residents and unknown state of residence. Therefore the totals in those tables do not necessarily match other tables in the publication.

### Counts of separations by groups of diagnoses, procedures and external causes

For tables with counts of separations by groups of diagnoses, procedures or external causes, a separation is counted once for the group if it has at least one diagnosis/procedure/ external cause reported within the group. As more than one diagnosis, procedure or external cause can be reported for each separation, the data are not additive and therefore the totals in the tables may not equal the sum of counts in the rows.

### Counts of procedures

For data on the number of procedures, all procedures within a group are counted, even if more than one is reported for a separation.

### Standard admitted patient care data analyses

For *chapters 7, 8, 9, 10* and *11* and relevant tables in *Chapter 2*, the counts of separations do not include separations for *Newborns* without qualified days and records for *Hospital boarders* or *Posthumous organ procurement*, and the patient days are also not included for those records. In addition, patient days for *Newborns* that were not 'qualified days' are excluded from the counts of patient days. For more information on these exclusions, see below.

Records for 2007–08 are for hospital separations (discharges, transfers, deaths or changes in care type) in the period 1 July 2007 to 30 June 2008. Data on patients who were admitted on any date before 1 July 2007 are included, provided that they also separated between 1 July 2007 and 30 June 2008. 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 2007 to 30 June 2008), 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 2007–08, but who were admitted before 1 July 2007, will be counterbalanced overall by the patient days for patients

in hospital on 30 June 2008 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 are presented below. The notes above and those in *Box 1.1* should 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).

## AR-DRG-based admitted patient care data analyses

For *Chapter 12*, and for tables elsewhere in the report that include cost weight information, separations are included only for *Acute* care, *Newborns* with at least one qualified day and where care type was *Not reported*. Patient days for *Newborns* that were not 'qualified days' are excluded from the counts of patient days. Thus separations for *Rehabilitation care*, *Palliative care*, *Geriatric evaluation and management*, *Psychogeriatric care*, *Maintenance care*, *Other admitted patient care*, and *Newborn care* without qualified days were excluded.

## Medical/Surgical/Other split

Separations have been categorised as *Medical*, *Surgical* or *Other* based on the AR-DRG classification recorded for the separation. *Surgical* DRGs are those with a second character of 0, 1, 2, or 3, *Medical* DRGs are those with a second character of 6, 7, 8, or 9 and *Other* is assigned for DRGs with a second character of 4 or 5. For tables 7.20 and 7.21, 'Other' includes AR-DRGs in the *Medical* and *Other* partitions.

## Public/private patient analyses

Throughout the report, the category *Public patients* includes separations for patients whose funding source was reported as *Australian Health Care Agreements* and *Reciprocal health care agreements*. *Private patients* includes separations for patients whose funding source was reported as *Private health insurance, Self-funded, Workers compensation, Motor vehicle third party personal claim, Other compensation, Department of Veterans' Affairs, Department of Defence* or *Correctional facility*. For patients whose funding source was reported as *Other hospital or public authority*, *Other*, *No charge raised* or *Not reported*, the category to which they belonged was determined by the reported Admitted patient election status. For 2007–08, the Admitted patient election status was not reported for 18,256 separations that could also not be classified as *Public* or *Private patients* using the reported funding source.

For *Australian hospital statistics* from 2002–03 to this report, *Public patients* and *Private patients* have been categorised as detailed above. However, due to changes in the data elements used to define *Public* and *Private patients* over time, caution should be used when making comparisons to reports before *Australian hospital statistics 2002–03* as the categories presented are not directly comparable. In particular, before 2002–03, there was some variation between jurisdictions in the use of the data element Admitted patient election status, with some states and territories using this element to reflect the patient's choice of room or doctor and others to reflect the funding source.

From 2003–04 to 2005–06, the data presented in Table 7.1 was based on Admitted patient election status, Medicare eligibility status and Funding source for hospital patient. For 2006–07 and 2007–08, the data for Table 7.1 was based on Admitted patient election status and Funding source for hospital patient. Therefore the data presented in Table 7.1 in this

report is not directly comparable to the data presented in *Australian hospitals statistics 2005–06* and earlier reports.

## Indigenous status

For statistical analyses by Indigenous status (for example, age-standardised separation rates and rate ratios), data are included only for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only), for which the quality of Indigenous identification is considered acceptable for the purpose of analysis. Further information on the quality of Indigenous identification in hospital data is included later in this appendix.

## Population rates

Unless noted otherwise (see below), population rates (separation rates) presented in this report are age-standardised, calculated using the direct standardisation method and 5-year age groups. The total Australian population for 30 June 2001 was used as the standard population against which expected rates were calculated. The Australian Bureau of Statistics' population estimates for 30 June 2007 and for 31 December 2007 were used for the observed rates as detailed below (see tables A1.1, A1.2 and A1.3 accompanying this report on the Internet).

Standard separation rates (by hospital state and by residence state) were directly age-standardised, using the estimated resident populations as at 31 December 2007.

Separation rates by Indigenous status were directly age-standardised, using the projected Indigenous population (low series) as at 30 June 2007 and the estimated resident populations as at 30 June 2007 (tables 8.7, 8.8, 9.22 and 10.20 and figures 9 and 8.1).

Separation rates by remoteness areas and by quintiles of socioeconomic advantage/disadvantage (see SEIFA below) were directly age-standardised, using the estimated resident populations as at 30 June 2007 (tables 4.5, 4.8, 4.9, 8.11 to 8.13, 9.20, 9.21, A5.2, A5.3 and Figure 10).

The crude population rates presented in some tables in *chapters 2, 3, 6, 9, 10* and *12* were calculated using the population estimates for 31 December 2007.

## Standardised separation rate ratios

For some tables reporting comparative separation rates (tables 4.7 to 4.9, 8.7, 8.8, 8.11 to 8.13, 9.19 to 9.22 and A5.1 to A5.3), standardised separation rate ratios (SRRs) are presented. The ratios are calculated by dividing the age-standardised separation rate for a population of interest (an observed rate) by the age-standardised separation rate for a comparison population (the expected rate). In these tables, a 95% confidence interval for the SRR has also been presented.

The calculations are as follows:

Standardised separation rate ratio (SRR) = observed rate/expected rate

Standard error (SRR) = $\sqrt{}$ (observed rate/expected rate)

95% confidence interval (SRR) = SRR $\pm$ 1.96 $\times$ standard error (SRR)

A confidence interval for the separation rate can be obtained by multiplying the upper and lower 95% confidence levels for the SRR by the crude rate for the population.

Thus a standardised separation ratio of 1 indicates that the population of interest (for example, *Indigenous Australians*) had a separation rate similar to that of the comparison group (for example, *Other Australians*). An SRR of 1.2 indicates that the population of interest had a rate that was 20% greater than that of the comparison population and an SRR of 0.8 indicates a rate 20% smaller. If the 95% confidence interval of the SRR contains 1, the rate for the population of interest is not significantly different (at the 95% confidence level) from that of the comparison population. Similarly, if the 95% confidence interval does not contain 1, then there is a significant difference (at the 95% confidence level).

The populations used for the observed and expected rates vary in this report, for example:

- For Indigenous status, the rate ratio is equal to the separation rate for *Indigenous Australians* divided by the separation rate for *Other Australians* (*Other Australians* includes Indigenous status not reported).
- For residence state or territory, remoteness areas and socioeconomic status, the rate ratio is equal to the separation rate for the residence state or territory/remoteness area/socioeconomic quintile divided by the separation rate for Australia.

## Counting public hospitals

Different counts of hospitals are used this report, depending on the type of information being presented and the way in which the hospitals were reported to the National Hospital Morbidity Database (NHMD) and the National Public Hospital Establishments Database (NPHED). In summary, two counts of hospitals are used (Table A1.4):

- In *Chapters 2* and *3*, hospitals are generally counted as they were reported to the NPHED. These entities are usually 'physical hospitals' (buildings or campuses) but may encompass some outpost locations such as dialysis units. Conversely hospitals on the one 'campus' can be reported as separate entities to this database if, for example, they are managed separately and have separate purposes, such as specialist women's services and specialist children's services. Although most of the hospitals counted in this way report separations to the NHMD, some small hospitals do not have separations every year.
- In the cost per casemix-adjusted separation analysis (Table 4.2a), entities for which there was expenditure information were reported as hospitals. The small numbers of hospitals in the NPHED with incomplete expenditure information were omitted. In some jurisdictions, hospitals exist in networks, and expenditure data were available only for these networks, so the networks are the entities counted as hospitals for these tables.

Data on numbers of hospitals should therefore be interpreted taking these notes into consideration. Changes in the numbers of hospitals over time can be due to changes in administrative or reporting arrangements rather than changes in the number of hospital campuses or buildings.

**Table A1.4: Numbers of public hospitals reported in this report, states and territories, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Hospitals** | | | | | | | | | |
| Chapters 2 and 3 | 228 | 148 | 177 | 94 | 80 | 27 | 3 | 5 | 762 |
| Table 4.2a (Expenditure data) | 228 | 91 | 174 | 94 | 74 | 24 | 3 | 5 | 693 |

Counts of private hospitals can also vary, depending on the source of the information. Thus, there may be discrepancies between counts of private hospitals from the ABS Private Health Establishments Collection presented in Table 2.1 and the lists of private hospitals contributing to the NHMD. The states and territories provided the latter information, which may not correspond with the way in which private hospitals report to the Private Health Establishments Collection.

## Public hospital peer groups

The AIHW worked with the National Health Ministers' Benchmarking Working Group (NHMBWG) and the National Health Performance Committee (NHPC) to develop a national public hospital peer group classification for use in presenting data on costs per casemix-adjusted separation. The aim was to allow more meaningful comparison of the data than comparison at the jurisdiction level would allow.

The peer groups were therefore designed to explain variability in the average cost per casemix-adjusted separation. They also group hospitals into broadly similar groups in terms of their range of admitted patient activity, and their geographical location, with the peer groups allocated names that are broadly descriptive of the types of hospitals included in each category.

The peer group classification is summarised in Table A1.5. Details of the derivation of the peer groups are in Appendix 11 of *Australian hospital statistics 1998–99* (AIHW 2000). From 2001–02, the method was adjusted slightly, by replacing the rural, remote and metropolitan area (RRMA) classification with the 2001 remoteness area classification for the geographical component of the peer grouping.

A flow chart can be found in *Australian hospital statistics 2002–03* (Figure A4.1 in that report) (AIHW 2004a) to illustrate the assignment of peer groups for almost all hospitals. However, on the advice of jurisdictions, hospitals may be assigned without using this logic, usually in special circumstances such as the opening or closing of a hospital during the year.

Selected characteristics of the hospitals assigned to each peer group for 2007–08 are presented in tables 4.2a–f (for each state and territory).

Although not specifically designed for purposes other than the cost per casemix-adjusted separation analysis, the peer group classification is recognised as a useful way to categorise hospitals for other purposes, including the presentation of other data. For example, the classification has been used to present data from the National Hospital Cost Data Collection (see *Appendix 3*), emergency department occasions of service data in *Chapter 5* and elective surgery waiting times data in *Chapter 6*. They have also been used to specify the scopes for national minimum data sets (NMDSs), for example, as noted above for the Non-admitted patient emergency department care NMDS and the Outpatient care NMDS.

The peer group to which each public hospital was assigned for 2007–08 is included in Table A2.2 (accompanying this report on the Internet). In some cases, the establishments defined as hospitals for the cost per casemix-adjusted separation analysis differ from those defined as hospitals for the elective surgery waiting times data or those defined for counts of hospitals presented in *chapters 2* and *3*. In these cases, their peer groups may also differ, and these differences are indicated in Table A2.3 (accompanying this report on the Internet).

**Table A1.5: Public hospital peer group classification[(a)]**

| Peer group | Subgroup | Definition |
|---|---|---|
| Principal referral and Specialist women's and children's hospitals | Principal referral | Major city hospitals with >20,000 acute casemix-adjusted separations, and Regional hospitals with >16,000 acute casemix-adjusted separations per annum. |
| | Specialist women's and children's | Specialised acute women's and children's hospitals with >10,000 acute casemix-adjusted separations per annum. |
| Large hospitals | Major city | Major city acute hospitals treating more than 10,000 acute casemix-adjusted separations per annum. |
| | Regional and Remote | Regional acute hospitals treating >8,000 acute casemix-adjusted separations per annum, and Remote hospitals with >5,000 casemix-adjusted separations. |
| Medium hospitals | Group 1 | Medium acute hospitals in Regional and Major city areas treating between 5,000 and 10,000 acute casemix-adjusted separations per annum. |
| | Group 2 | Medium acute hospitals in Regional and Major city areas treating between 2,000 and 5,000 acute casemix-adjusted separations per annum, and acute hospitals treating <2,000 casemix-adjusted separations per annum but with >2,000 separations per annum. |
| Small acute hospitals | Regional | Small Regional acute hospitals (mainly small country town hospitals), acute hospitals treating <2,000 separations per annum, and with less than 40% non-acute and outlier patient days of total patient days. |
| | Remote | Small Remote hospitals (<5,000 acute casemix-adjusted separations but not 'multi-purpose services' and not 'small non-acute'). Most are <2,000 separations. |
| Sub-acute and non-acute hospitals | Small non-acute | Small non-acute hospitals, treating <2,000 separations per annum, and with more than 40% non-acute and outlier patient days of total patient days. |
| | Multi-purpose services | |
| | Hospices | |
| | Rehabilitation | |
| | Mothercraft | |
| | Other non-acute | For example, geriatric treatment centres combining rehabilitation and palliative care, with a small number of acute patients. |
| Unpeered and other hospitals | | Prison medical services, dental hospitals, special circumstance hospitals, Major city hospitals with <2,000 acute casemix-adjusted separations, hospitals with <200 separations etc. |
| Psychiatric hospitals | | |

(a) Only the peer groups above the dashed line are included in the cost per casemix-adjusted separation analyses presented in *Chapter 4*.

## ICD-10-AM codes used for selected analyses

A number of tables in this report use ICD-10-AM codes to define diagnoses and procedures. The codes are presented in Table A1.6 (accompanying this report on the Internet) and relate to:

- figures 13 to 16 in the 'Hospitals at a glance' section
- tables 4.7 to 4.9, which present statistics on selected procedures
- tables 4.5, 4.6, A5.1, A5.2 and A5.3, which present statistics on selected potentially preventable hospitalisations
- tables 9.19 to 9.21, which present statistics on renal failure hospitalisations.

## Data on geographical location

Data on geographical location are collected on hospitals in the NPHED and on the area of usual residence of patients in the NHMD. These data have been provided as state or territory and Statistical Local Area (SLA, a small area unit within the Australian Bureau of Statistics (ABS) Australian Standard Geographical Classification (ASGC)) and/or postcode, and have been aggregated to remoteness areas.

The ASGC's remoteness structure categorises geographical areas in Australia into remoteness areas, described in detail on the ABS website <www.abs.gov.au>.

The classification is as follows:

- *Major cities*
- *Inner regional*
- *Outer regional*
- *Remote*
- *Very remote.*

### Geographical location of hospital

The remoteness area of each public hospital was determined using geo-coded data (with latitude and longitude) for each hospital in 2001 or on the basis of its SLA, postcode or other location information as detailed in *Australian hospital statistics 2002–03* (AIHW 2004a).

Data on the remoteness area of hospitals are presented in *Chapter 2* (Table 2.7) and *Chapter 3* (Table 3.3).

### Geographical location of usual residence of the patient

Information on the area of usual residence of the patient is supplied by the states and territories for the NHMD. The *National health data dictionary* specifies that these data should be provided as the state or territory and the SLA of usual residence. Although most separations included data on the state or territory of usual residence, not all states and territories were able to provide information on the area of usual residence in the form of an SLA code. New South Wales, Victoria, Western Australia, Tasmania, the Australian Capital Territory and the Northern Territory were able to provide SLA codes both for patients usually resident in the jurisdiction and for patients not usually resident in the jurisdiction. Queensland and South Australia provided SLA codes for patients usually resident in the jurisdiction and postcodes for patients not usually resident in the jurisdiction.

Where necessary, the AIHW mapped the supplied area of residence data for each separation to 2007 SLA codes and to remoteness area categories based on the ABS's ASGC Remoteness Structure 2006. This was undertaken on a probabilistic basis as necessary, using ABS concordance information describing the distribution of the population by postcode, remoteness areas and SLAs (for 2007 and previous years). The mapping process identified some missing or invalid codes, but about 99.5% of records were assigned 2007 SLA codes. For the remaining 0.5% of records, about 42% were for overseas residents, 9% were of no fixed abode, and the remainder not reported. Because of the probabilistic nature of this mapping, the SLA and remoteness area data for individual separations may not be accurate; however, the overall distribution of separations by geographical areas is considered useful.

### Remoteness area of usual residence

Data based on the area usual residence for admitted patients are presented by remoteness area in Figure 10 of the *Hospitals at a glance* section, in figures 6.2, 6.3, 6.4 and 6.12, and in tables 4.7, 4.8, 8.12, 9.20 and A5.2.

For 2007–08, the patients' area of residence data were mapped to the ABS's ASGC Remoteness Structure 2006. For 2001–02 to 2006–07, the AIHW mapped the patients' area of residence data to the ABS's ASGC Remoteness Structure 2001.

The data presented by remoteness areas using the ABS's ASGC Remoteness Structure 2006 in this report are not comparable to the data presented by remoteness areas using the ABS's ASGC Remoteness Structure 2001 in *Australian hospital statistics* reports for 2001–02 to 2006–07 because of differences in the underlying calculation of the Accessibility/Remoteness Index of Australia (ARIA) scores used to determine remoteness areas. Therefore, caution should be used when making comparisons over time as the remoteness areas categories presented are not directly comparable.

### Socioeconomic status

The Socio-Economic Indexes For Areas 2006 (termed SEIFA 2006 (ABS 2008a)) are generated by the ABS using a combination of 2006 Census data such as income, education, health problems/disability, access to Internet, occupation/unemployment, wealth and living conditions, dwellings without motor vehicles, rent paid, mortgage repayments, and dwelling size. Composite scores are averaged across all people living in areas and defined for areas based on the Census collection districts. However, they are also compiled for higher levels of aggregation including SLA. The SEIFAs are described in detail on the ABS website <www.abs.gov.au>.

The SEIFA Index of Relative Advantage and Disadvantage is one of the ABS's SEIFA indexes. The relative advantage and disadvantage scores indicate the collective socioeconomic status of the people living in an area, with reference to the situation and standards applying in the wider community at a given point in time. A relatively disadvantaged area is likely to have a high proportion of relatively disadvantaged people. However, such an area is also likely to contain people who are not disadvantaged, as well as people who are relatively advantaged.

Separation rates by socioeconomic status were generated by the AIHW by using the SEIFA Index of Relative Advantage and Disadvantage scores for this index for the SLA of usual residence of the patient reported for each separation. The *Most disadvantaged* quintile represents the areas containing the 20% of the population with the least advantage/most disadvantage, and the *Most advantaged* quintile represents the areas containing the 20% of the population with the least disadvantage/most advantage.

## AR-DRG versions, cost weights and cost estimates

Information based on AR-DRGs is presented in *chapters 2, 4, 7, 12* and in this appendix.

### AR-DRG versions

For 2007–08, each separation in the NHMD was classified to AR-DRG version 5.1 (DoHA 2004b) on the basis of demographic and clinical characteristics of the patient.

Each AR-DRG version is based on a specific edition of the ICD-10-AM/ACHI. The ICD coded data for 2002–03 and 2003–04 were reported using the third edition of the ICD-10-AM

to which AR-DRG version 5.0 applies, and AR-DRG version 5.1 was relevant for the 2004–05 and 2005–06 data which were reported using the fourth edition of the ICD-10-AM. For 2006–07 and 2007–08, the data were reported using the fifth edition of the ICD-10-AM/ACHI for which AR-DRG version 5.2 was developed. However, the data provided for 2006–07 and 2007–08 were reported in AR-DRG version 5.1 because cost weights are only available for AR-DRG version 5.1.

For time series comparisons, the AR-DRG-based data in tables 12.5 and 12.6 use AR-DRG version 5.1 for the years 2003–04 to 2007–08. For the purpose of this analysis, the ICD coded data for 2003–04 were mapped forward to the fourth edition of the ICD-10-AM and then grouped to AR-DRG version 5.1 and the ICD coded data for 2006–07 and 2007–08 were mapped backward to the fourth edition of the ICD-10-AM and then grouped to AR-DRG version 5.1. Due to the mapping necessary to generate the AR-DRG versions, the data presented in these tables may not be comparable for a small number of AR-DRGs.

Similarly, the AIHW's AR-DRG online data cubes (<www.aihw.gov.au>) present AR-DRG versions 4.0, 4.1 and 4.2 based on the relevant AR-DRG versions for 1997–98 to 2001–02, and for the years 2002–03 to 2004–05 the supplied third and fourth edition ICD-10-AM codes were mapped backwards to second edition codes to group the data for those years to AR-DRG version 4.2. Similarly, for the AR-DRG version 5.0/5.1 cube, which covers the years 1998–99 to 2007–08, the data for 1998–99 to 2001–02 based on earlier editions of the ICD-10-AM were mapped forwards to the third edition codes and then grouped to AR-DRG version 5.0.

**AR-DRG cost weights and cost estimates**

Cost weights and cost estimates are prepared by the Australian Government Department of Health and Ageing through the National Hospital Cost Data Collection (NHCDC) (DoHA 2008). The average cost weight information provides a guide to the expected resource use for separations, with a value of 1.00 representing the average cost for all separations. The NHCDC estimates the average cost of each AR-DRG and the cost weight is the average cost for that AR-DRG divided by the average cost across all AR-DRGs ($3,722 for the public sector, and $2,754 for the private sector in 2006–07). Separate cost weights are usually estimated for the public and private sectors because of the differences in the range of costs recorded in public and private hospitals.

The latest available cost weights (at the time of publication of this report) were for version 5.1 AR-DRGs for 2006–07 (DoHA 2008). When the NHCDC 2007–08 results become available, updated information using those data will be provided in the tables accompanying this report on the Internet at <www.aihw.gov.au>.

In tables 2.3, 2.4, 4.1a–d, 4.2a–g, 4.3, 7.10, *Chapter 12* and in this appendix, average cost weights using public cost weights are based on the AR-DRG version 5.1 2006–07 national public sector estimated cost weights. These were applied to AR-DRG version 5.1 DRGs for 2003–04 to 2007–08. In tables 2.3 and 2.4, average cost weights for the private sector are presented based on AR-DRG version 5.1 2006–07 national private sector estimated cost weights.

The cost by volume estimates presented in Table 7.10, *Chapter 12* and the supplementary *Chapter 12* tables (accompanying this report on the Internet) are calculated by applying the AR-DRG version 5.1 2006–07 national public and private sector estimated average costs to the AR-DRG version 5.1 data for 2007–08.

# Data quality and comparability

## Quality of diagnosis and procedure data

Diagnosis, procedure and external cause data for 2007–08 were reported to the NHMD by all states and territories using the fifth edition of the *International statistical classification of diseases and related health problems, 10th revision, Australian modification* (ICD-10-AM/ACHI) (NCCH 2006), incorporating the *Australian classification of health interventions* (ACHI).

The quality of coded diagnosis, procedure and external cause data can be assessed using coding audits in which, in general terms, selected records are independently recoded and the resulting codes compared with the codes originally assigned for the separation. There are no national standards for this auditing, so it is not possible to use information on coding audits to make quantitative assessments of data quality on a national basis.

The quality and comparability of the coded data can, however, be gauged by information provided by the states and territories on the quality of the data, by the numbers of diagnosis and procedure codes reported and by assessment of apparent variation in the reporting of additional diagnoses. The comparability of the data can also be influenced by state-specific coding standards.

### State and territory comments on the quality of the data

The following information has been provided by the states and territories to provide some insight into the quality of the coded data in the NHMD.

For New South Wales, hospitals perform formal audits on ICD-10-AM coded data at a local level. Data edits are monitored regularly and consistent errors are identified and rectified by individual hospitals.

Victoria conducted a state-wide external audit in 2006–07. This audit reviewed the ICD-10-AM/ACHI coding and the application of Australian Coding Standards along with some key demographic data. A total of 10,000 cases were audited. The overall result showed a change in DRGs of 9.0% indicating a high quality of coding, and representing an improvement on the 9.8% change reported following completion of the previous 3-year audit in 2000–01.

Hospitals in Queensland conduct their own coding quality audits, and ICD-10-AM validations are automatically conducted as part of the general processing of morbidity data in the corporate data collection. In addition, the Statistical Standards Unit (SSU) carried out a program of clinical coding audits to allow for a corporate level understanding of coding quality. Six hospital audits were conducted in 2007–08. The Unit also provided hospitals with quarterly Performance Indicators for Coding Quality (PICQ) reports and supported a state-wide coding website which allows access to standardised advice, information and support for all Queensland Health coders.

The Western Australian Department of Health conducts regular audits of hospital medical records and inpatient data-reporting processes. This Clinical Information Audit Program aims to provide assurances of data quality and integrity, promoting confidence in the use of health information by hospitals and throughout the system. The results of these audits for 2007–08 admitted patient cases from teaching and non-teaching hospitals indicate that the quality of the coded data is very good. The National Centre for Classification in Health's

PICQ software and in-house quality activities were also applied to all cases received by the department.

The Department of Health, South Australia, performed a major audit of coding practices in major metropolitan hospitals on random samples of 2004–05 data. The purpose of the audit was to ascertain the level of coding accuracy and the impact on AR-DRG assignment. The audit found that coding practices in major metropolitan hospitals had improved significantly since the last major audit (conducted in 2002), with almost all hospitals reporting a reduction in their DRG error rate. In addition, the department conducts regular targeted desktop audits of coded data. Results are reported to all South Australian Coders in a quarterly newsletter, and individual hospitals are notified if a problem exists, and where coding needs to be corrected.

In Tasmania, hospitals continue to conduct coding quality improvement activities using the Australian Coding Benchmark Audit tool and PICQ. Validation of ICD-10-AM data also occurs routinely as the data are processed from the hospitals. A State-wide Recoding Study Working Group was formed to implement recommendations from a previous state-wide recoding study and a coding audit was conducted in 2006.

For 2007–08, the Australian Capital Territory Health Department (ACT Health) reported that the ICD-10-AM/ACHI coded data quality is excellent. ACT Health also reported that ongoing validation checks performed on extracts from data sources have confirmed that the collection of coded data conformed to standards. The number of episodes grouping to the 901Z, 902Z and 903Z DRGs remained constant with 41 records in 2006–07 and 47 records in 2007–08.

The Northern Territory maintained coding quality activities through the Coders' Forum, internal coding auditing and the use of DRG error reporting.

**Number of diagnosis codes**

The NHMD contains data on principal diagnoses and additional diagnoses. Additional diagnoses include comorbidities (coexisting conditions) and/or complications which may contribute to longer lengths of stay, more intensive treatment or the use of greater resources. Ideally, the number of additional diagnoses recorded for a patient should be related to the person's clinical condition and not be restricted by administrative or technical limitations. The AIHW requested that the states and territories report a maximum of 50 diagnosis codes, but some report more.

Table A1.7 presents information on the number of diagnosis codes (principal and additional) reported to the NHMD. There are differences between the states and territories in the maximum number of diagnoses reported. For example, in the public sector, South Australia reported a maximum of 25 diagnoses and Queensland a maximum of 73. For both public and private sectors, the average number of diagnosis codes per separation varied little among the jurisdictions, but there was some variation in the reporting of additional diagnoses as discussed below.

Overall, the average number of codes reported for the public sector was slightly higher than for the private sector. In the public sector, 20% of records had five or more diagnosis codes, but in the private sector less than 10% of records fell into this category. It may be that more complicated cases were treated in public hospitals, or there may have been differences in coding practices.

### Number of procedure codes

Table A1.8 presents information on the number of procedure codes reported to the NHMD. Ideally, the number of procedures recorded for a patient should reflect the procedures undertaken and not be restricted by administrative or technical limitations. There were marked differences between the states and territories in the maximum number of procedures reported, ranging from 25 for South Australia to 99 for Western Australia. However, with the exception of the Northern Territory, the average number of procedure codes per separation in the public sector varied little among the jurisdictions, as was the case in the private sector. The AIHW requested a maximum of 50 codes, so this may have restricted the number of codes reported by New South Wales, Queensland, Tasmania and the Australian Capital Territory. The proportion of separations for which no procedures were reported was higher in the public sector (24.5%) than in the private sector (6.6%).

In recent years, the reporting of five or more procedure codes for a separation has increased in both sectors. In the public sector, 8.1% of records had five or more procedure codes in 2007–08, compared with 7.2% in 2003–04 (AIHW 2005a). In the private sector, 9.0% of records had five or more procedure codes in 2007–08, compared with 8.2% in 2003–04. The higher rate of recording five or more procedures in the private sector than in the public sector may be due to differences in coding practices between the sectors.

### Apparent variation in reporting of additional diagnoses

A measure of apparent variation among Australian states and territories in the reporting and coding of additional diagnoses is the proportion of separations in the lowest resource split for adjacent AR-DRGs, standardised to the national distribution of adjacent AR-DRGs to take into account differing casemixes (Coory & Cornes 2005).

An adjacent AR-DRG is a set of AR-DRGs that is split on a basis supplementary to the principal diagnoses and procedures that are used to define the adjacent AR-DRG grouping. For many adjacent AR-DRGs, this split is based on the inclusion of significant additional diagnoses, also known as complications or comorbidities (CCs). Adjacent AR-DRGs are signified in the AR-DRG classification by having the first three characters in common. For example, A08A *Autologous bone marrow transplant with catastrophic CC* and A08B *Autologous bone marrow transplant without catastrophic CC* are considered adjacent and the adjacent AR-DRG can be referred to as A08 *Autologous bone marrow transplant*. The allocation of a fourth character code is hierarchical, with the highest resource use level being assigned an A and the lowest resource use level being assigned the lowest letter in the sequence.

The underlying assumption is that variation in the proportions of separations assigned to individual AR-DRGs within an adjacent AR-DRG is caused by variation in the reporting and coding of additional diagnoses that are relevant to the split of the adjacent AR-DRG. A corollary of this assumption is that any variation seen was not caused by age, diagnosis, socioeconomic status or other factors. This assumption is less likely to be valid when comparing hospital sectors which have differing casemixes, or the smaller jurisdictions because of differing population profiles and the limitations of the standardisation method.

The data were directly standardised by scaling the distribution of adjacent AR-DRGs in each jurisdiction/sector to the same distribution as the national total. The resulting proportions of separations in the lowest resource AR-DRG within the adjacent AR-DRG are comparable.

This analysis concentrates on differences in the reporting of additional diagnoses that are significant in AR-DRG assignment within the adjacent AR-DRG groupings. Therefore, this analysis excludes adjacent AR-DRGs where the partitioning involved other factors such as

age, malignancy, mental health legal status, birth weight, mode of separation (including transfers, left against medical advice and death) or types of procedures.

The analysis covers five groups of adjacent AR-DRGs:

1. all applicable adjacent AR-DRGs (that is, excluding adjacent AR-DRGs with other factors affecting partitioning)
2. adjacent DRGs where the lowest split was without CCs
3. adjacent DRGs where the lowest split was without severe or catastrophic CCs
4. major medical conditions: adjacent AR-DRGs E61 *Pulmonary embolism*, F62 *Heart failure and shock*, T60 *Septicaemia*—these adjacent AR-DRGs are selected because admission for these conditions is seen to be relatively non-discretionary and less likely than for other AR-DRGs to be influenced by variation in admission practices
5. vaginal and caesarean deliveries.

The above categories overlap; in particular, *Vaginal and caesarean deliveries* is a subset of the second category, and *Major medical conditions* is a subset of the third category.

Table A1.9 shows that there is variation among jurisdictions in the proportion of separations that are grouped to the lowest resource split for adjacent AR-DRGs. In the private sector, there was slightly less variation between the highest and the lowest proportions than in the public sector.

For the Northern Territory, data for some measures were suppressed because of limitations with direct standardisation for groups that report a limited range of AR-DRGs (see the discussion of relative stay indexes below).

See Table A1.10 (accompanying this report on the Internet) for the list of AR-DRGs included.

#### State-specific coding standards

The Australian Coding Standards were developed for use in both public and private hospitals with the aim of satisfying sound coding convention according to the ICD-10-AM/ACHI. Although all states and territories instruct their coders to follow the Australian Coding Standards, some jurisdictions also apply state-specific coding standards to deal with state-specific reporting requirements. These standards may be in addition to or instead of the relevant Australian Coding Standard, and may affect the comparability of ICD-10-AM coded data.

For example, there are variations in coding standards between jurisdictions with regard to the reporting of external cause codes and place of occurrence codes. The Australian Coding Standard requires a place of occurrence code to be reported if an external cause code in the range V00–Y89 has been reported, and requires an activity when injured code to be recorded if the external cause code is in the range V00–Y34. The Western Australian coding standard requires the mandatory recording of a place of occurrence and activity when injured code for all records with a diagnosis code in the range S00–T98, regardless of the external cause code reported. The Victorian coding standard does not require the recording of external cause, place of occurrence or activity when injured if the care type is rehabilitation.

### Quality of Indigenous status data

Overall, the quality of the admitted patient data provided for Indigenous status in 2007–08 is considered to be in need of some improvement, being considered acceptable only for New

South Wales, Victoria, Queensland, Western Australia, South Australia and public hospitals in the Northern Territory.

The quality of the Indigenous status data provided for 2007–08 for emergency department presentations also varied by jurisdiction. Most states and territories advised that the Indigenous status data collected in an emergency department setting could be less accurate than the data collected for admitted patients.

The data presented on Indigenous status in *chapters 5, 6, 8, 9* and *10* should therefore be used with caution.

The following information has been provided by the states and territories to provide some insight into the quality of Indigenous status data in both the NHMD and the National Non-admitted Patient Emergency Department Care Database.

**New South Wales**

The New South Wales Health Department (NSW Health) conducted an audit of the admitted patient data collection in March/April 2007. The audit covered 20 hospitals drawn from metropolitan, inner regional, outer regional and remote locations, and involved face-to-face interviews with almost 3,000 patients. The audit resulted in a completeness rating of Indigenous identification of 82% in metropolitan hospitals to 100% in remote hospitals, with a state average of 89%.

Indigenous status is a mandatory data item collected at all facilities that provide data for the NSW Health Emergency Department Data Collection. NSW Health noted that for 2007–08, approximately 10% of emergency department records were missing Indigenous status data, despite the information being recorded on the patient administration system. The high level of non-reporting resulted from difficulties in the implementation of new systems. NSW Health is working to correct the information. NSW Health considers that Indigenous status identification in its emergency department data is acceptable.

**Victoria**

The Victorian Department of Human Services reports that, despite data quality improvement in recent years, Indigenous status admitted patient data for 2007–08 should still be considered to undercount the number of Aboriginal and Torres Strait Islander patients.

For Victoria, the quality of Indigenous status data in emergency department data is improving but is less accurate than that of admitted patients in public hospitals.

**Queensland**

Queensland Health noted that for 2007–08 Indigenous status was not reported for 5.7% of admitted patient separations (2.1% of public hospital separations and 9.5% of private hospital separations). The level of non-reporting of Indigenous status for private hospitals had decreased since the 2006–07 collection, but for public hospitals the level of non-reporting had increased slightly. Available evidence suggests that the number of Indigenous separations is significantly understated in the Queensland hospital morbidity data due to non-reporting as well as misreporting of Indigenous status. Efforts continue to be made to address these data quality issues. Improving the completeness and coverage of Indigenous status reporting is now a key performance indicator for Queensland Health Service Districts.

Queensland Health noted that for 2007–08 emergency department data, Indigenous status was not reported in 1.9% of cases. This is a similar level of non-reporting as for the 2006–07

data. Efforts will continue to be made to ensure that reporting of Indigenous status is as complete and accurate as possible.

**Western Australia**

The Western Australian Department of Health regards its Indigenous status admitted patient data as being of good quality. Quality improvement activities, including cross-referencing between metropolitan and country hospitals, continue to enhance the accuracy of this data element.

The Western Australian emergency department Indigenous status data is considered to be acceptable, and to be more reliable in rural and remote areas.

**South Australia**

The South Australian Department of Health considers its admitted patient data on Indigenous status for 2007–08 to be suitable for inclusion in national statistical reports. It is known that standards for identification are better in country hospitals than metropolitan hospitals. The department conducts annual training programs on the collection of admitted patient data, and the programs always cover the importance, and the correct way, of asking the Indigenous status question. A 30% loading has been applied to casemix payments for Indigenous separations in public hospitals for a number of years, which acts as an incentive for improved identification.

South Australia reported that the quality of Indigenous status data is higher for admitted patients than non-admitted emergency department patients, as evidenced by the high proportion of emergency department episodes for which Indigenous status was *Not reported* (Table 5.6). However there has been an improvement in data quality. In 2007–08 Indigenous status was not reported in 6.3% of emergency department presentations, compared with 17.7% in 2005–06.

**Tasmania**

The Tasmanian Department of Health and Human Services reports that the quality of Indigenous status admitted patient data improved in 2007–08 and the number of separations where Indigenous status was not stated decreased in both sectors. The department is continuing to monitor and implement actions to improve the coverage and quality of Indigenous data in both the public and private sectors.

**Australian Capital Territory**

The Australian Capital Territory Health Department (ACT Health) noted that the level of reporting of Indigenous status for 2007–08 appeared to be on a par with reporting for 2006–07.

**Northern Territory**

The Northern Territory Department of Health and Community Services reported that the quality of its 2007–08 Indigenous status data for both admitted patients and emergency department patients, is considered to be acceptable. The department retains historical reporting of Indigenous status and individual client systems receive a report (for follow up) of individuals who have reported their Indigenous status as *Aboriginal* on one occasion and as *Torres Strait Islander* on another. All management and statistical reporting, however, is based on a person's most recently reported Indigenous status.

## Newborn episodes of care

The *Newborn* care type was introduced in 1998–99 for the hospital morbidity data to report a single episode of care for all patients aged 9 days or less at admission, regardless of their qualification status and whether they changed qualification status during their hospital stay. Thus, these episodes can include qualified days only, a mixture of qualified days and unqualified days, or only unqualified days. Qualified days are considered to be the equivalent of acute care days and *Newborn* episodes with qualified days only are considered to be equivalent to *Acute* care episodes. In this report, *Newborn* episodes with at least one qualified day have been included in all tables reporting separations. Records for *Newborn* episodes with no qualified days do not meet admission criteria for all purposes, so they have been excluded from this report, except as specified in *Chapter 7*. The number of patient days reported in this publication for *Newborn* episodes is equal to the number of qualified days, so for newborns with a mixture of qualified and unqualified days the number of patient days reported is less than the actual length of stay for the episode.

For 2007–08, hospitals in Tasmania and the Northern Territory and private hospitals in South Australia did not report any *Newborn* episodes with a mixture of qualified and unqualified days (Table 7.11), and private hospitals in Victoria did not report most *Newborn* episodes with no qualified days. In South Australia, qualified and unqualified newborn care are defined as separate episodes of care, but for the purpose of supplying data to the NHMD separate episodes occurring within a single stay in hospital are bundled together. The practice of generating a new episode on a care change within a single stay in hospital is followed by public but not private hospitals in South Australia. For Tasmania, where a newborn's qualification status was considered qualified at any point during the episode of care, the entire episode was reported as qualified days. As a consequence of the reporting method used, the number of *Newborn* episodes with qualified days only includes those who may have had an unqualified component in their stay. For this reason, the average length of stay for *Newborn* episodes with qualified days only in Tasmanian public hospitals is not directly comparable with that in other states.

Information on reporting practices for *Newborn* episodes before 2007–08 is available in previous *Australian hospital statistics* publications (AIHW 2002, 2003, 2004a, 2005a, 2006a, 2007a, 2008a).

## Hospital boarders and posthumous organ procurement

For some states and territories, the data provided to the NHMD included records for *Hospital boarders* and for *Posthumous organ procurement* activity. These records were provided on an optional basis as they do not represent admitted patient care.

The records for *Hospital boarders* were excluded from this report. There were 40,107 such records reported to the NHMD in 2007–08, mainly from Western Australia, Queensland and the Northern Territory.

Records for *Posthumous organ procurement* activity were also excluded from this report. There were 74 such records reported to the NHMD in 2007–08. Most of these records were from Queensland and Western Australia, with small numbers from New South Wales, Tasmania and the Northern Territory.

# Cost per casemix-adjusted separation analysis

The cost per casemix-adjusted separation (tables 4.1a–d, 4.2a–g and 4.3) is an indicator of the efficiency of public acute care hospitals. It is a measure of the average recurrent expenditure for each admitted patient, adjusted using AR-DRG cost weights for the resources expected to be used for the separation. A synopsis of the methods used in this analysis is presented below, and more detail is available in *Australian hospital statistics 2000–01* (AIHW 2002).

## Definition

The formula used to calculate the cost per casemix-adjusted separation is:

$$\frac{\text{Recurrent expenditure} \times \text{IFRAC}}{\text{Total separations} \times \text{Average cost weight}}$$

where:

- recurrent expenditure is as defined by the recurrent expenditure data elements in the *National health data dictionary* (HDSC 2006)
- IFRAC (admitted patient cost proportion) is the estimated proportion of total hospital expenditure that relates to admitted patients
- total separations excludes *Newborns* without qualified days and records that do not relate to admitted patients (*Hospital boarders* and *Posthumous organ procurement*)
- average cost weight is a single number representing the relative expected resource use for the separations.

### Recurrent expenditure

For the medical labour cost category, data are available only for public patients, as private patients are charged directly by their doctor for medical services, and these charges are not included in the recurrent expenditure figures. The proportion of patients other than public patients can vary; therefore, medical costs for these patients are estimated, and the expenditure is increased to resemble what it would be if all patients had been public patients. The estimate is based on the salary/sessional and visiting medical officer expenditure per patient day for public patients, applied to all patients.

Costs per casemix-adjusted separation for states and territories were calculated excluding depreciation, and also including depreciation (for those jurisdictions for which depreciation was available).

### Admitted patient cost proportion

To determine the costs associated with admitted patients, an admitted patient cost proportion (or inpatient fraction, IFRAC) is used. The IFRAC was provided to the AIHW for most hospitals by the states and territories and is the proportion of total hospital expenditure that related to the provision of care for admitted patients. For a few small hospitals where the IFRAC was not available, the admitted patient costs were estimated using the Health and Allied Services Advisory Council (HASAC) ratio. The HASAC ratio can be calculated using information about the total number of admitted patient days and the total number of non-admitted patient services provided by the hospital.

**Total separations**

The formula used to calculate the cost per casemix-adjusted separation includes all admitted patient separations and their associated costs. It is appropriate to include the acute care separations, which comprise almost 98% of the total for the hospitals included in the analysis (Table A1.11), as cost weights are available for them. However, the 2% of separations that are not acute care are also included and, as there are no cost weights for these separations, the average cost weight for the acute separations for each hospital is used. This method may affect the estimates of cost-weighted separations (see below) for each state and territory, depending on the proportion of non-acute separations for the state or territory. The non-acute admitted patients (including rehabilitation patients) generally have higher costs per separation than acute care patients because, although their daily costs are lower, these patients typically have longer lengths of stay.

Comparisons between the states and territories should therefore take into consideration the uncertainty introduced by these episodes for which the cost weights were unavailable. There is variation in the number and length of stay for the non-acute care separations between jurisdictions (Table A1.11).

To refine the method to remove this anomaly would require estimates of expenditure for acute care for admitted patients (acute care IFRACs). For 2007–08, such estimates were available for some jurisdictions, as presented below.

There is also some variation between states and territories in the ways in which periods of hospitalisation are split into episodes of care (for example, newborn care). In states or territories where there is a clear delineation in funding arrangements between acute and non-acute services, splitting episodes into acute and other components may be different from where there is no such funding delineation.

**Average cost weights**

The average cost weight for a hospital or group of hospitals (tables 4.2a–g, for example) is calculated as the number of casemix-adjusted separations divided by the number of separations. It represents in a single number the overall relative expected use of resources by a hospital. For example, a hospital with an average cost weight of 1.08 has an 8% more costly casemix than the national average (equal to 1.00).

The average cost weight for a group of hospitals is multiplied by the total number of separations for that group to produce the number of casemix-adjusted separations (the denominator). The term 'cost per casemix-adjusted separation' derives from this use of the number of separations adjusted by relative costliness.

The validity of comparisons of average cost weights is limited by differences in the extent to which each jurisdiction's psychiatric care services are integrated into its public hospital system. For example, in Victoria, almost all public psychiatric hospitals are mainstreamed into acute hospital services, and psychiatric patient data are therefore included in the acute hospital reports. Cost weights are not as useful as measures of resource requirements for acute psychiatric care because the relevant AR-DRGs are less homogeneous than for other acute care.

## Cost per acute care and non-psychiatric acute care casemix-adjusted separation

Because cost weights are available only for acute care separations, the cost per casemix-adjusted separation analysis applies these cost weights to all separations. The methodology would be refined if cost weights became available for other care types, or if the analysis were to be restricted to acute care activity and expenditure. As AR-DRG cost weights are likely to be less useful as measures of resource requirements for psychiatric acute care than for other acute care, a further refinement would be to restrict the analysis to non-psychiatric acute care activity and expenditure.

Restriction to acute care activity requires the states and territories to make estimates of expenditure on acute care admitted patients (supplied as acute care IFRACs), and for separations relating to non-acute care patients to be excluded from the analysis. Restriction to non-psychiatric acute care activity requires the states and territories to make estimates of expenditure on non-psychiatric acute care admitted patients (supplied as non-psychiatric acute care IFRACs), and for separations relating to non-acute care patients and to psychiatric acute care patients to be excluded from the analysis. Psychiatric acute care activity is excluded from the admitted patient data by excluding separations if one or more psychiatric care days were reported for the separation (indicating that care was provided in a specialised psychiatric unit).

New South Wales, Victoria and Western Australia provided estimates of expenditure on acute care admitted patients, so estimates of the cost per casemix-adjusted acute care separation are presented for these jurisdictions (Table A1.12). Separations were included only if their care type was *Acute*, *Newborn* with at least one qualified day or for which the care type was *Not reported*.

The reported acute care and non-psychiatric acute care IFRACs were the same as the IFRACs for all care types for some hospitals that had reported non-acute admitted patient care activity. Those hospitals were excluded from the analysis if they reported more than 1,000 patient days for non-acute separations. Several hospitals reported acute care IFRACs that gave an estimated cost per day of over $1,000, which was considered an unreasonably high estimate for non-acute care types.

Using these criteria, this analysis excludes 55 hospitals for New South Wales, 4 hospitals for Victoria and 7 hospitals for Western Australia for 2007–08.

The estimated cost per acute care casemix-adjusted separation for the hospitals included was $4,519 in New South Wales, $3,672 in Victoria and $4,278 in Western Australia. The cost per casemix-adjusted separation for all separations in these hospitals was $4,506, $4,182 and $4,478, respectively (Table A1.12), so the effect of restricting the analysis to acute care admitted patients was to increase the estimated cost by 0.3% in New South Wales and to decrease the estimated cost by 12.2% in Victoria and 4.5% in Western Australia.

The estimated cost per non-psychiatric acute casemix-adjusted separation for the selected hospitals was $4,661 in New South Wales, $3,618 in Victoria and $4,256 in Western Australia. The effect of restricting the analysis to non-psychiatric acute admitted patients was to increase the estimated cost by 3.4% in New South Wales and to decrease the estimated cost by 13.5% in Victoria and 5.0% in Western Australia.

The estimated cost per acute care casemix-adjusted separation, including depreciation for the selected hospitals, was $4,647 in New South Wales, $3,817 in Victoria and $4,401 in Western Australia (Table A1.12). The estimated cost per non-psychiatric acute casemix-adjusted

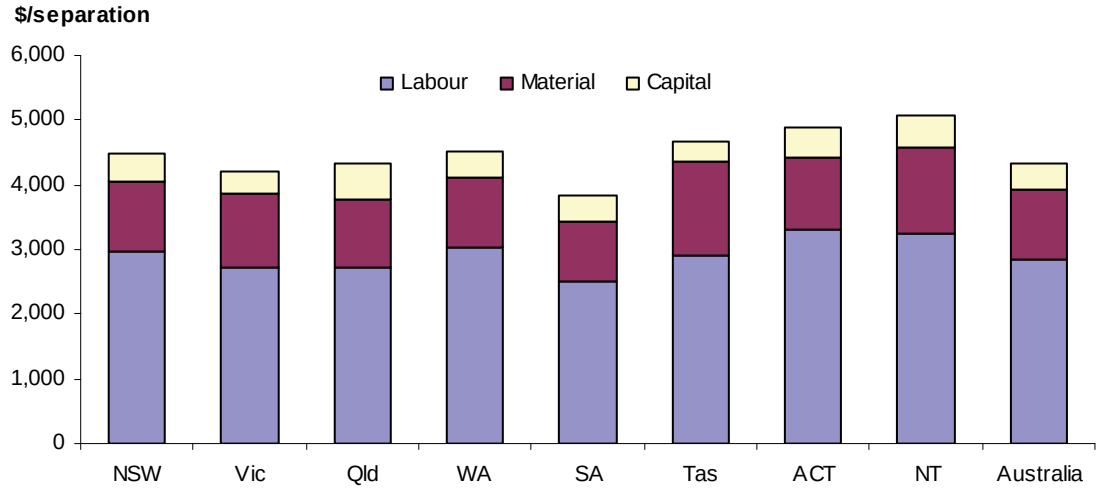
separation, including depreciation for the selected hospitals was $4,793 in New South Wales, $3,760 in Victoria and $4,379 in Western Australia.

These analyses would be further improved if all jurisdictions increased their capacity to separate costs for psychiatric services, other acute services, sub-acute services (for example, rehabilitation) and non-acute services.

## Cost per casemix-adjusted separation, including capital

The cost per casemix-adjusted separation analysis includes recurrent expenditure and depreciation for those states that reported it (see above, and *Chapter 4*). The total cost per casemix-adjusted separation by jurisdiction (including capital costs), as published by SCRGSP for 2006–07, is presented in Figure A1.1.

The Steering Committee for the Review of Government Service Provision (SCRGSP) reported 'total costs per casemix-adjusted separation' by state and territory for 2006–07 (SCRGSP 2009). It was defined as the recurrent cost per casemix-adjusted separation plus the capital costs (depreciation and the user cost of capital of buildings and equipment) per casemix-adjusted separation.




Notes:

1. 'Labour' includes medical and non-medical labour costs. 'Material' includes other non-labour recurrent costs, such as repairs and maintenance.

2. 'Capital' includes depreciation and the user cost of capital for buildings and equipment that is associated with the delivery of admitted patient services in the public hospitals as described in the data for recurrent cost per casemix-adjusted separation. 'Capital cost' excludes the user cost of capital associated with land.

3. Variation across jurisdictions in the collection of capital-related data suggests the data are only indicative. The capital cost per casemix-adjusted separation is equal to the capital cost adjusted by the inpatient fraction, divided by the number of casemix-adjusted separations.

*Source*: SCRGSP 2009.

**Figure A1.1: Cost per casemix-adjusted separation including capital, public hospitals, 2006–07**

'Depreciation is defined as the cost of consuming an asset's services. It is measured by the reduction in value of an asset over the financial year. The user cost of capital is the opportunity cost of the capital invested in an asset, and is equivalent to the return foregone from not using the funds to deliver other government services or to retire debt. Interest

payments represent a user cost of capital, so are deducted from capital costs in all jurisdictions to avoid double counting' (SCRGSP 2009).

Excluding the user cost of capital for land, the total cost per casemix-adjusted separation ranged from $4,880 in the Northern Territory to $3,825 in South Australia (SCRGSP 2009) (Figure A1.1).

Further details about the SCRGSP calculation of total cost per casemix-adjusted separation are available in the Report on government services 2009 (SCRGSP 2009).

# Relative stay index analysis

Relative stay indexes (RSIs) have been identified as indicators of efficiency and are presented in tables 2.3, 2.4, 4.2a–e, 4.3, 4.12, 4.13, 12.1 and 12.2. They are calculated as the observed (actual) number of patient days for separations in selected AR-DRGs, divided by the number of expected patient days (based on national figures), standardised for casemix. An RSI greater than 1 indicates that an average patient's length of stay is higher than expected given the casemix for the group of separations of interest. An RSI of less than 1 indicates that the length of stay was less than expected.

The standardisation for casemix (based on AR-DRG version 5.1 and the age of the patient for each separation) allows comparisons to be made that take into account variation in types of services provided, but does not take into account other influences on length of stay, such as Indigenous status.

The RSI method includes acute care separations only, and excludes separations for patients who died or were transferred within 2 days of admission, or with length of stay greater than 120 days. Excluded from the analysis were:

- AR-DRGs for rehabilitation (such as Z60A *Rehabilitation with catastrophic/severe complications or comorbidities*)
- predominantly same-day AR-DRGs (such as R63Z *Chemotherapy* and L61Z *Admit for renal dialysis*)
- AR-DRGs with a length of stay component in the definition (see Table A1.13 accompanying this report on the Internet)
- *Error* AR-DRGs.

Comparisons with RSIs presented in *Australian hospital statistics 2003–04* (AIHW 2005a) and earlier reports should be made with caution, because the indexes for earlier years were calculated using AR-DRG version 4 and, for reports after 2003–04, the RSIs were calculated using AR-DRG version 5.0/5.1.

The analysis using AR-DRG version 5.1 results in the exclusion of a greater number of AR-DRGs with a length of stay component in the definition than in AR-DRG version 4. In addition, some version 4 AR-DRGs no longer exist, and for some AR-DRGs common to both versions there are notable differences in the number of separations that are assigned to the AR-DRG when the data are grouped to both versions. This results, for example, in slight increases in private hospital RSIs (0.5% overall) and slight decreases in public hospital RSIs (–0.1% overall).

## RSI standardisation methods

Two methods are used for standardisation of the length of stay data, and are analogous to direct and indirect age-standardisation methods. The method used generally in this report is analogous to indirect standardisation where the national rates (average length of stay (ALOS)) for each AR-DRG (version 5.0/5.1) are applied to the relevant population of interest (number of separations for each AR-DRG in the hospital group) to derive the expected number of patient days. Indirect standardisation methods are generally used when rate information (ALOS for each AR-DRG in this analysis) for the population of interest is unknown or subject to fluctuation because of small population sizes. This method provides a measure of efficiency for a hospital, or group of hospitals, based on their actual activity. However, an indirectly standardised rate compares a group with a 'standard population rate' so, using this method, rates for different groups are not strictly comparable because each group has a different casemix to which the national ALOS data have been applied. Therefore, the indirectly standardised data for hospital groups should be compared with the national average of 1.00.

The second method is analogous to direct standardisation where the rate (ALOS) of each AR-DRG for the group of interest is multiplied by the national population (total number of separations in each AR-DRG) to derive the expected number of patient days. This method provides a measure of efficiency for a hospital, or group of hospitals, and is suitable if all or most AR-DRGs are represented in a hospital group. Direct standardisation methods are generally used where the populations and their characteristics are stable and reasonably similar, for example for total separations for New South Wales and Victoria.

Groups can be compared using directly standardised rates as the activity of each group is weighted using the same set of weights, namely the national casemix. However, the ALOS data for AR-DRGs which are not represented in a group need to be estimated. The method in this report uses an assumption that the missing AR-DRGs for the hospital group had a relative length of stay that was the same as that for the reported AR-DRGs for the hospital group, weighted by the national distribution of the reported AR-DRGs in the group. Another weakness of direct standardisation is that this method can scale up AR-DRGs to have an impact that does not reflect their relative volume in a hospital group. This weakness can be particularly problematic if the low-volume AR-DRGs are atypical.

Because of the weaknesses of the direct standardised method, this report mainly presents RSI information using the indirect standardised method. However, the direct standardised method has also been presented in Table 2.3 as a time series and in Table 4.12 by state and territory. This allows comparison between the two methods and more direct comparison for those jurisdictions and sectors for which the data are presented. Data for the direct standardised method in the public sector in the Northern Territory are suppressed in Table 4.12, because of problems with using the direct standardisation for hospital groups that reported a limited range of AR-DRGs. For public hospitals in the Northern Territory, about 500 of the 635 DRGs used in the national RSI analysis are represented, so results are likely to have been affected by estimation of the missing ALOS data.

Table A1.13 shows the number of AR-DRGs represented in each cell in Table 4.12, so that the number of AR-DRGs for which ALOS was estimated can be derived. For those jurisdictions and sectors for which RSI statistics are presented in Table 4.12, there were between 562 and 632 AR-DRGs represented, meaning that ALOS data was estimated for up to 103 AR-DRGs.

# Condition onset flag data

The data element 'Episode of admitted patient care—condition onset flag' is mandated for national collection in the Admitted patient care National Minimum Data Set for the first time for the 2008–09 reporting period.

The condition onset flag is a means of differentiating those conditions which arise during, or arose before, an admitted patient episode of care. It is reported for each diagnosis, external cause, place of occurrence, and activity when injured ICD-10-AM code.

Condition onset flag information can provide an insight into the kinds of conditions patients already have when entering hospital and what arises during the episode of care. A better understanding of those conditions arising during the episode of care may inform prevention strategies, particularly in relation to complications of medical care.

With advice from the Australian Hospital Statistics Advisory Committee, the AIHW will report Condition onset flag data comprehensively in *Australian hospital statistics 2008–09*. In this report, the data are previewed with data provided for 2007–08 by Victoria and Queensland.

## Provision of condition onset flag, 2007–08

The data specifications for the 2007–08 APC NMDS included the optional provision of condition onset flag for those jurisdictions that were able to provide these data.

For the 2007–08 collection period, Victoria and Queensland provided condition onset flags as a prefix for diagnosis, external cause, place of occurrence, and activity when injured ICD-10-AM codes.

Table A1.14 presents information on the number and proportion of separations that reported at least one condition arising during the episode of care, by urgency of admission and same-day/overnight status.

Overall, about 7.6% of all separations reported at least one condition that arose during the episode of care. For same-day separations, less than 1% recorded a diagnosis with onset during the episode of care, and for overnight separations, almost 17% recorded a diagnosis with onset during the episode of care.

The proportion of separations that recorded a condition arising during the episode of care varied with the urgency of admission. For same-day separations with an *Emergency* urgency of admission status, the proportion of separations that recorded a condition with onset during the episode was 1.2%, twice the rate for same-day separations with either *Elective* or *Not assigned* urgency of admission (both 0.6%). For overnight separations, the proportion that recorded a condition with onset during the episode was very similar for both *Emergency* and *Elective* urgency of admission (14.7% and 15.9%, respectively), and was highest (25.0%) for overnight separations with a *Not assigned* urgency of admission (which includes admissions for normal delivery, statistical admissions and pre-planned readmissions).

Table A1.15 presents information on the number and proportion of additional diagnoses that were reported as arising during the episode of care, by ICD-10-AM disease chapter and same-day/overnight status. It should be noted that some diseases or conditions are coded using more than one code, so the count of additional diagnosis codes is not a count of conditions.

For the same-day separations, the disease chapters with the highest proportion of additional diagnoses that arose during the episode of care were *Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* (R00–R99, 5.5%), *Injury, poisoning and certain other consequences of external causes* (S00–T98, 4.3%) and *Certain conditions originating in the perinatal period* (P00–P96, 3.2%). For overnight separations, the disease chapters with the highest proportions of additional diagnoses that arose during the episode of care were *Pregnancy, childbirth and the puerperium* (O00–O99, 34.9%), *Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified* (R00–R99, 30.1%) and *Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism* (D50–D89, 25.5%).

**Table A1.14: Separations, by urgency of admission and presence of a condition with onset during the episode of care, by same-day/overnight status, Victoria and Queensland, 2007–08**

| | Conditions with onset during episode of care | Total number of separations | Total number of diagnoses | % of separations with condition onset during episode of care |
|---|---|---|---|---|
| **Same-day separations** | | | | |
| Emergency | 3,030 | 262,336 | 265,366 | 1.2 |
| Elective | 8,997 | 1,618,497 | 1,627,494 | 0.6 |
| Not assigned | 2,196 | 343,019 | 345,215 | 0.6 |
| Not reported | 0 | 1 | 1 | 0.0 |
| Total | *14,223* | *2,223,853* | *2,238,076* | *0.6* |
| **Overnight separations** | | | | |
| Emergency | 103,659 | 705,709 | 809,368 | 14.7 |
| Elective | 104,726 | 660,111 | 764,837 | 15.9 |
| Not assigned | 69,759 | 278,697 | 348,456 | 25.0 |
| Not reported | 0 | 403 | 403 | 0.0 |
| *Total* | *278,144* | *1,644,920* | *1,923,064* | *16.9* |
| **Total** | **292,367** | **3,868,773** | **4,161,140** | **7.6** |

*Note:* Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.

Some diseases or disorders are not expected to arise during the episode of care, such as diseases or disorders in the chapters *Neoplasms* (C00–D48) and *Congenital malformations, deformations and chromosomal abnormalities* (Q00–Q99). Therefore it is not expected that additional diagnoses would be reported with onset during the episode of care for these chapters. However, there were some diagnoses in these chapters that were reported as having onset during the episode of care. These may indicate data quality issues that the AIHW will consider with states and territories before publication of future condition onset data.

## Table A1.7: Separations[a], by number of diagnosis codes[b] reported and hospital sector, states and territories, 2007–08

| Hospital sector | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Number | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations[c] | 1,466,737 | 1,351,172 | 831,965 | 458,202 | 368,330 | 96,270 | 81,127 | 90,258 | 4,744,061 |
| One diagnosis code only | 443,244 | 378,859 | 232,323 | 97,998 | 122,355 | 24,521 | 37,590 | 9,975 | 1,346,865 |
| Two diagnosis codes only | 386,201 | 432,320 | 229,933 | 119,554 | 90,107 | 30,046 | 14,738 | 50,678 | 1,353,577 |
| Three diagnosis codes only | 194,112 | 183,475 | 124,906 | 90,514 | 48,653 | 15,224 | 9,072 | 8,167 | 674,123 |
| Four diagnosis codes only | 131,960 | 114,461 | 75,932 | 47,576 | 32,390 | 7,921 | 5,951 | 5,794 | 421,985 |
| Five or more diagnosis codes | 310,982 | 241,908 | 168,871 | 102,560 | 74,825 | 18,556 | 13,776 | 15,644 | 947,122 |
| Mean diagnosis codes per separation | 3.2 | 3.0 | 3.2 | 3.4 | 3.1 | 3.1 | 2.8 | 3.2 | 3.2 |
| Maximum number of diagnosis codes | 50 | 40 | 73 | 54 | 25 | 42 | 38 | 41 | . . |
| **Private hospitals** | | | | | | | | | |
| Separations[c] | 857,920 | 802,291 | 780,299 | 325,418 | 243,597 | n.p. | n.p. | n.p. | 3,129,885 |
| One diagnosis code only | 509,098 | 291,467 | 241,553 | 103,321 | 78,536 | n.p. | n.p. | n.p. | 1,267,679 |
| Two diagnosis codes only | 160,328 | 249,278 | 235,885 | 95,917 | 78,839 | n.p. | n.p. | n.p. | 857,781 |
| Three diagnosis codes only | 82,365 | 124,665 | 131,647 | 63,063 | 36,904 | n.p. | n.p. | n.p. | 457,193 |
| Four diagnosis codes only | 45,771 | 60,859 | 73,375 | 26,723 | 20,136 | n.p. | n.p. | n.p. | 236,269 |
| Five or more diagnosis codes | 60,358 | 72,842 | 97,839 | 36,394 | 29,182 | n.p. | n.p. | n.p. | 307,777 |
| Mean diagnosis codes per separation | 1.9 | 2.4 | 2.6 | 2.6 | 2.6 | n.p. | n.p. | n.p. | 2.4 |
| Maximum number of diagnosis codes | 19 | 37 | 73 | 61 | 26 | n.p. | n.p. | n.p. | . . |
| | | | | | Per cent | | | | |
| **Public hospitals** | | | | | | | | | |
| One diagnosis code only | 30.2 | 28.0 | 27.9 | 21.4 | 33.2 | 25.5 | 46.3 | 11.1 | 28.4 |
| Two diagnosis codes only | 26.3 | 32.0 | 27.6 | 26.1 | 24.5 | 31.2 | 18.2 | 56.1 | 28.5 |
| Three diagnosis codes only | 13.2 | 13.6 | 15.0 | 19.8 | 13.2 | 15.8 | 11.2 | 9.0 | 14.2 |
| Four diagnosis codes only | 9.0 | 8.5 | 9.1 | 10.4 | 8.8 | 8.2 | 7.3 | 6.4 | 8.9 |
| Five or more diagnosis codes | 21.2 | 17.9 | 20.3 | 22.4 | 20.3 | 19.3 | 17.0 | 17.3 | 20.0 |
| **Private hospitals** | | | | | | | | | |
| One diagnosis code only | 59.3 | 36.3 | 31.0 | 31.8 | 32.2 | n.p. | n.p. | n.p. | 40.5 |
| Two diagnosis codes only | 18.7 | 31.1 | 30.2 | 29.5 | 32.4 | n.p. | n.p. | n.p. | 27.4 |
| Three diagnosis codes only | 9.6 | 15.5 | 16.9 | 19.4 | 15.1 | n.p. | n.p. | n.p. | 14.6 |
| Four diagnosis codes only | 5.3 | 7.6 | 9.4 | 8.2 | 8.3 | n.p. | n.p. | n.p. | 7.5 |
| Five or more diagnosis codes | 7.0 | 9.1 | 12.5 | 11.2 | 12.0 | n.p. | n.p. | n.p. | 9.8 |

(a) Separations for which the care type was reported as Newborn with no qualified days, and records for Hospital boarders and Posthumous organ procurement have been excluded.

(b) Codes reporting external causes of injury and poisoning are not included.

(c) Includes separations for which no diagnosis codes were reported. For 2007–08, there were 393 records in public hospitals and 3,190 records in private hospitals for which no diganosis codes were reported.

*Note:* The AIHW requested up to 50 diagnosis codes to be reported.

**Table A1.8: Separations[a], by number of procedure codes reported and hospital sector, states and territories, 2007–08**

| Hospital sector | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Number | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations[b] | 1,466,737 | 1,351,172 | 831,965 | 458,202 | 368,330 | 96,270 | 81,127 | 90,258 | 4,744,061 |
| No procedure reported | 376,308 | 296,675 | 245,085 | 86,920 | 97,613 | 24,914 | 14,584 | 20,120 | 1,162,219 |
| One procedure code only | 451,496 | 504,700 | 269,382 | 166,448 | 120,658 | 33,926 | 33,826 | 49,114 | 1,629,550 |
| Two procedure codes only | 264,417 | 241,368 | 139,998 | 90,786 | 63,640 | 16,038 | 13,728 | 10,223 | 840,198 |
| Three procedure codes only | 163,854 | 131,697 | 76,101 | 51,017 | 39,185 | 8,830 | 8,303 | 4,802 | 483,789 |
| Four procedure codes only | 83,342 | 66,481 | 39,133 | 25,636 | 19,351 | 4,612 | 4,137 | 2,211 | 244,903 |
| Five or more procedure codes | 127,320 | 110,251 | 62,266 | 37,395 | 27,883 | 7,950 | 6,549 | 3,788 | 383,402 |
| Mean procedure codes per separation[c] | 2.5 | 2.3 | 2.4 | 2.4 | 2.4 | 2.4 | 2.2 | 1.7 | 2.4 |
| Maximum number of procedure codes | 50 | 40 | 50 | 99 | 25 | 50 | 50 | 33 | . . |
| **Private hospitals** | | | | | | | | | |
| Separations[b] | 857,920 | 802,291 | 780,299 | 325,418 | 243,597 | n.p. | n.p. | n.p. | 3,129,885 |
| No procedure reported | 29,624 | 76,287 | 57,028 | 16,595 | 13,453 | n.p. | n.p. | n.p. | 206,369 |
| One procedure code only | 173,678 | 190,596 | 223,136 | 102,521 | 61,136 | n.p. | n.p. | n.p. | 771,877 |
| Two procedure codes only | 306,198 | 269,022 | 263,416 | 91,987 | 78,285 | n.p. | n.p. | n.p. | 1,052,668 |
| Three procedure codes only | 202,938 | 143,485 | 127,246 | 55,124 | 45,840 | n.p. | n.p. | n.p. | 597,759 |
| Four procedure codes only | 67,578 | 52,817 | 46,592 | 24,937 | 19,191 | n.p. | n.p. | n.p. | 220,211 |
| Five or more procedure codes | 77,904 | 70,084 | 62,881 | 34,254 | 25,692 | n.p. | n.p. | n.p. | 281,001 |
| Mean procedure codes per separation[c] | 2.6 | 2.5 | 2.4 | 2.5 | 2.6 | n.p. | n.p. | n.p. | 2.5 |
| Maximum number of procedure codes | 20 | 40 | 50 | 62 | 25 | n.p. | n.p. | n.p. | . . |
| | | | | | Per cent | | | | |
| **Public hospitals** | | | | | | | | | |
| No procedure reported | 25.7 | 22.0 | 29.5 | 19.0 | 26.5 | 25.9 | 18.0 | 22.3 | 24.5 |
| One procedure code only | 30.8 | 37.4 | 32.4 | 36.3 | 32.8 | 35.2 | 41.7 | 54.4 | 34.3 |
| Two procedure codes only | 18.0 | 17.9 | 16.8 | 19.8 | 17.3 | 16.7 | 16.9 | 11.3 | 17.7 |
| Three procedure codes only | 11.2 | 9.7 | 9.1 | 11.1 | 10.6 | 9.2 | 10.2 | 5.3 | 10.2 |
| Four procedure codes only | 5.7 | 4.9 | 4.7 | 5.6 | 5.3 | 4.8 | 5.1 | 2.4 | 5.2 |
| Five or more procedure codes | 8.7 | 8.2 | 7.5 | 8.2 | 7.6 | 8.3 | 8.1 | 4.2 | 8.1 |
| **Private hospitals** | | | | | | | | | |
| No procedure reported | 3.5 | 9.5 | 7.3 | 5.1 | 5.5 | n.p. | n.p. | n.p. | 6.6 |
| One procedure code only | 20.2 | 23.8 | 28.6 | 31.5 | 25.1 | n.p. | n.p. | n.p. | 24.7 |
| Two procedure codes only | 35.7 | 33.5 | 33.8 | 28.3 | 32.1 | n.p. | n.p. | n.p. | 33.6 |
| Three procedure codes only | 23.7 | 17.9 | 16.3 | 16.9 | 18.8 | n.p. | n.p. | n.p. | 19.1 |
| Four procedure codes only | 7.9 | 6.6 | 6.0 | 7.7 | 7.9 | n.p. | n.p. | n.p. | 7.0 |
| Five or more procedure codes | 9.1 | 8.7 | 8.1 | 10.5 | 10.5 | n.p. | n.p. | n.p. | 9.0 |

(a) Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.
(b) Includes separations for which no procedure codes were reported.
(c) Means are for separations with one or more procedures.
*Note: The* AIHW requested up to 50 procedure codes to be reported.

**Table A1.9: Separation[a] statistics for selected adjacent AR-DRGs[b], by hospital sector, states and territories, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| **All adjacent AR-DRGs split by complications only** | | | | | | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations | 467,640 | 371,511 | 256,809 | 125,043 | 114,129 | 31,446 | 22,716 | 19,042 | 1,408,336 |
| Raw proportion in lowest resource level AR-DRG | 0.64 | 0.64 | 0.67 | 0.65 | 0.65 | 0.71 | 0.66 | 0.59 | 0.65 |
| Standardised proportion in lowest resource level AR-DRG | 0.66 | 0.64 | 0.67 | 0.66 | 0.65 | 0.71 | 0.66 | 0.60 | 0.66 |
| 95% confidence interval of proportion | 0.66–0.66 | 0.64–0.64 | 0.67–0.68 | 0.66–0.67 | 0.64–0.65 | 0.70–0.71 | 0.65–0.67 | 0.59–0.61 | 0.66–0.66 |
| **Private hospitals** | | | | | | | | | |
| Separations | 146,052 | 149,069 | 147,585 | 58,621 | 49,658 | n.p. | n.p. | n.p. | 577,550 |
| Raw proportion in lowest resource level AR-DRG | 0.82 | 0.73 | 0.75 | 0.76 | 0.74 | n.p. | n.p. | n.p. | 0.76 |
| Standardised proportion in lowest resource level AR-DRG | 0.76 | 0.70 | 0.70 | 0.70 | 0.68 | n.p. | n.p. | n.p. | 0.71 |
| 95% confidence interval of proportion | 0.76–0.77 | 0.70–0.70 | 0.69–0.70 | 0.70–0.71 | 0.68–0.69 | n.p. | n.p. | n.p. | 0.71–0.71 |
| **Adjacent AR-DRGs with a moderate complication as the lowest resource level AR-DRG** | | | | | | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations | 175,211 | 134,872 | 101,102 | 46,938 | 40,469 | 11,426 | 9,036 | 7,965 | 527,019 |
| Standardised proportion in lowest resource level AR-DRG | 0.55 | 0.52 | 0.58 | 0.54 | 0.52 | 0.59 | 0.55 | 0.49 | 0.54 |
| 95% confidence interval of proportion | 0.54–0.55 | 0.52–0.52 | 0.57–0.58 | 0.54–0.55 | 0.52–0.53 | 0.58–0.60 | 0.54–0.56 | 0.48–0.50 | 0.54–0.55 |
| **Private hospitals** | | | | | | | | | |
| Separations | 32,090 | 38,891 | 37,661 | 16,256 | 12,152 | n.p. | n.p. | n.p. | 144,576 |
| Standardised proportion in lowest resource level AR-DRG | 0.61 | 0.53 | 0.54 | 0.55 | 0.52 | n.p. | n.p. | n.p. | 0.55 |
| 95% confidence interval of proportion | 0.60–0.62 | 0.53–0.54 | 0.54–0.55 | 0.54–0.55 | 0.51–0.52 | n.p. | n.p. | n.p. | 0.55–0.55 |
| **Adjacent DRGs with a severe or catastrophic complication as the lowest resource level AR-DRG** | | | | | | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations | 292,429 | 236,639 | 155,707 | 78,105 | 73,660 | 20,020 | 13,680 | 11,077 | 881,317 |
| Standardised proportion in lowest resource level AR-DRG | 0.72 | 0.70 | 0.72 | 0.73 | 0.71 | 0.76 | 0.72 | 0.66 | 0.72 |
| 95% confidence interval of proportion | 0.71–0.72 | 0.70–0.71 | 0.72–0.73 | 0.72–0.73 | 0.71–0.72 | 0.75–0.78 | 0.71–0.73 | 0.64–0.67 | 0.72–0.72 |
| **Private hospitals** | | | | | | | | | |
| Separations | 113,962 | 110,178 | 109,924 | 42,365 | 37,506 | n.p. | n.p. | n.p. | 432,974 |
| Standardised proportion in lowest resource level AR-DRG | 0.84 | 0.79 | 0.78 | 0.78 | 0.77 | n.p. | n.p. | n.p. | 0.80 |
| 95% confidence interval of proportion | 0.84–0.85 | 0.78–0.79 | 0.77–0.78 | 0.78–0.79 | 0.76–0.78 | n.p. | n.p. | n.p. | 0.79–0.80 |

*(continued)*

**Table A1.9 (continued): Separation[(a)] statistics for selected adjacent AR-DRGs[(b)], by hospital sector, states and territories, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Adjacent AR-DRGs classified as major medical conditions** | | | | | | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations | 20,008 | 14,488 | 8,239 | 3,993 | 4,140 | 1,089 | 721 | 614 | 53,292 |
| Standardised proportion in lowest resource level AR-DRG | 0.62 | 0.58 | 0.63 | 0.64 | 0.59 | 0.70 | 0.61 | 0.64 | 0.61 |
| 95% confidence interval of proportion | 0.61–0.63 | 0.57–0.59 | 0.62–0.65 | 0.62–0.66 | 0.57–0.61 | 0.66–0.75 | 0.57–0.66 | 0.59–0.69 | 0.61–0.62 |
| **Private hospitals** | | | | | | | | | |
| Separations | 1,871 | 3,870 | 3,595 | 930 | 1,264 | n.p. | n.p. | n.p. | 12,013 |
| Standardised proportion in lowest resource level AR-DRG | 0.74 | 0.68 | 0.65 | 0.63 | 0.62 | n.p. | n.p. | n.p. | 0.67 |
| 95% confidence interval of proportion | 0.71–0.77 | 0.65–0.70 | 0.63–0.67 | 0.59–0.67 | 0.58–0.65 | n.p. | n.p. | n.p. | 0.66–0.68 |
| **Adjacent AR-DRGs for vaginal and caesarean delivery** | | | | | | | | | |
| **Public hospitals** | | | | | | | | | |
| Separations | 70,921 | 49,433 | 41,354 | 19,831 | 14,209 | 3,927 | 3,526 | 2,928 | 206,129 |
| Standardised proportion in lowest resource level AR-DRG | 0.39 | 0.31 | 0.43 | 0.35 | 0.35 | 0.39 | 0.36 | 0.36 | 0.37 |
| 95% confidence interval of proportion | 0.38–0.39 | 0.31–0.32 | 0.43–0.43 | 0.34–0.35 | 0.34–0.35 | 0.38–0.40 | 0.35–0.38 | 0.35–0.38 | 0.37–0.37 |
| **Private hospitals** | | | | | | | | | |
| Separations | 19,124 | 20,843 | 18,004 | 9,900 | 5,206 | n.p. | n.p. | n.p. | 78,153 |
| Standardised proportion in lowest resource level AR-DRG | 0.38 | 0.33 | 0.37 | 0.36 | 0.32 | n.p. | n.p. | n.p. | 0.36 |
| 95% confidence interval of proportion | 0.37–0.38 | 0.32–0.33 | 0.37–0.38 | 0.35–0.36 | 0.31–0.33 | n.p. | n.p. | n.p. | 0.36–0.36 |

(a) Separations for which the care type was reported as *Acute,* or *Newborn* with qualified days, or was *Not reported.*

(b) AR-DRG version 5.1, using AR-DRGs as detailed in the text of *Appendix 1* .

**Table A1.11: Summary of separations in public acute hospitals selected for the cost per casemix-adjusted separation analysis[a] and data for excluded hospitals, states and territories, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Total separations ('000)** | 1,407 | 1,320 | 801 | 428 | 347 | 94 | 81 | 90 | 4,568 |
| **Total patient days ('000)** | 5,272 | 4,261 | 2,695 | 1,372 | 1,281 | 335 | 277 | 261 | 15,753 |
| **Acute separations[b]** | | | | | | | | | |
| Separations ('000) | 1,383 | 1,290 | 774 | 418 | 339 | 92 | 76 | 89 | 4,462 |
| Patient days ('000) | 4,882 | 3,567 | 2,330 | 1,217 | 1,152 | 289 | 216 | 242 | 13,896 |
| **Acute care psychiatric separations[c]** | | | | | | | | | |
| Separations ('000) | 26 | 16 | 19 | 6 | 6 | 3 | 1 | 1 | 78 |
| Average cost weight[d] | 1.95 | 2.52 | 2.01 | 2.08 | 2.12 | 1.42 | 2.16 | 2.12 | 2.09 |
| Patient days ('000) | 407 | 268 | 232 | 95 | 84 | 28 | 18 | 10 | 1,142 |
| **Acute care non-psychiatric separations** | | | | | | | | | |
| Separations ('000) | 1,358 | 1,274 | 756 | 412 | 333 | 89 | 75 | 88 | 4,384 |
| Patient days ('000) | 4,475 | 3,299 | 2,097 | 1,123 | 1,068 | 261 | 198 | 232 | 12,753 |
| **Separations other than acute** | | | | | | | | | |
| Rehabilitation separations ('000) | 13.5 | 16.3 | 16.4 | 6.9 | 4.9 | 1.1 | 2.3 | 0.5 | 61.9 |
| Patient days ('000) | 258.9 | 373.8 | 207.5 | 115.2 | 35.8 | 28.8 | 29.6 | 4.7 | 1,054.4 |
| Palliative care separations ('000) | 3.9 | 3.8 | 3.9 | 1.1 | 1.3 | 0.0 | 0.6 | 0.3 | 14.7 |
| Patient days ('000) | 39.1 | 50.5 | 32.0 | 8.8 | 15.5 | 0.4 | 7.1 | 3.3 | 156.6 |
| Geriatric evaluation and management separations ('000) | 1.6 | 7.1 | 0.5 | 0.6 | 0.2 | 0.0 | 0.5 | 0.1 | 10.6 |
| Patient days ('000) | 13.4 | 188.2 | 7.9 | 5.6 | 2.0 | 0.2 | 6.8 | 1.6 | 225.7 |
| Psychogeriatric separations ('000) | 0.3 | 1.9 | 0.5 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 3.0 |
| Patient days ('000) | 5.5 | 56.4 | 11.0 | 0.5 | 8.9 | 0.1 | 0.5 | 0.1 | 83.0 |
| Maintenance separations ('000) | 4.4 | 0.7 | 4.3 | 1.5 | 2.0 | 0.5 | 1.3 | 0.4 | 15.1 |
| Patient days ('000) | 72.6 | 25.6 | 105.3 | 24.2 | 66.6 | 16.3 | 17.1 | 8.6 | 336.2 |
| Other separations ('000) | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| Patient days ('000) | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 |
| **Total separations other than acute** | | | | | | | | | |
| **Separations ('000)** | **23.6** | **29.7** | **26.1** | **10.1** | **8.6** | **1.7** | **4.7** | **1.3** | **105.9** |
| **Patient days ('000)** | **389.5** | **694.4** | **365.2** | **154.3** | **128.7** | **45.8** | **61.1** | **18.4** | **1,857.5** |
| **Psychiatric separations[c]** | | | | | | | | | |
| Separations ('000) | 26 | 18 | 20 | 6 | 6 | 3 | 1 | 1 | 82 |
| Patient days ('000) | 427 | 325 | 279 | 95 | 94 | 28 | 19 | 10 | 1,277 |
| **Data for excluded hospitals[e]** | | | | | | | | | |
| Separations ('000)[b] | 60 | 30 | 31 | 30 | 21 | 2 | 0 | 0 | 175 |
| Per cent of all separations | 4.1 | 2.2 | 3.8 | 6.6 | 5.7 | 2.3 | 0.0 | 0.0 | 3.7 |
| Expenditure ($m) | 935 | 310 | 324 | 310 | 260 | 28 | 3 | 0 | 2,169 |
| Inpatient fraction | 0.67 | 0.45 | 0.68 | 0.66 | 0.76 | 0.55 | . . | . . | 0.65 |
| Unadjusted cost per separation | 10,542 | 4,700 | 7,066 | 6,735 | 9,382 | 6,931 | n.a. | . . | 8,066 |

(a) See footnote (e) for hospitals excluded from cost per casemix adjusted separation analysis. Some small hospitals with incomplete expenditure are also excluded. Expenditure data exclude depreciation.

(b) Separations for which the care type was reported as *Acute, Newborn* with at least one qualified day, or *Not reported.* Includes same-day separations.

(c) Separations with total days of psychiatric care equal to the total length of stay.

(d) Average cost weight from the NHMD, based on separations with a care type of *Acute* , *Newborn* with at least one qualified day, or *Not reported* , using the 2006–07 AR-DRG version 5.1 cost weights (DoHA 2008).

(e) Psychiatric hospitals, drug and alcohol services, mothercraft hospitals, unpeered and other hospitals, hospices, rehabilitation facilities, small non-acute and multipurpose services. See *Appendix 1* for further information.

**Table A1.12: Cost per acute, and non-psychiatric acute, casemix-adjusted separation, subset of selected public acute hospitals[a], New South Wales, Victoria and Western Australia, 2007–08**

| | NSW | Vic | WA |
|---|---|---|---|
| **Subset of public acute hospitals** | | | |
| Total separations ('000)[b] | 664 | 1,257 | 265 |
| Total patient days ('000)[b] | 2,482 | 4,066 | 817 |
| **Cost per casemix-adjusted separation (excl depreciation)** | **4,506** | **4,182** | **4,478** |
| **Cost per casemix-adjusted separation (incl depreciation)** | **4,633** | **4,347** | **4,607** |
| Proportion of total benchmarking hospitals separations | 47% | 95% | 62% |
| Total recurrent expenditure (excl depreciation) ($m) | 4,492 | 6,716 | 1,654 |
| Total recurrent expenditure (incl depreciation) ($m) | 4,627 | 6,989 | 1,703 |
| Proportion of benchmarking hospitals recurrent expenditure | 51% | 96% | 64% |
| Total admitted patient expenditure (excl depreciation) ($m) | 3,132 | 4,926 | 1,126 |
| Total admitted patient expenditure (incl depreciation) ($m) | 3,226 | 5,126 | 1,160 |
| Proportion of benchmarking hospitals admitted patient expenditure | 51% | 96% | 63% |
| **Cost per casemix-adjusted acute separation** | | | |
| Acute separations ('000)[c] | 657 | 1,228 | 261 |
| Acute patient days ('000)[c] | 2,395 | 3,385 | 752 |
| Average cost weight[d] | 1.07 | 0.96 | 0.99 |
| Casemix-adjusted acute separations ('000) | 706 | 1,184 | 257 |
| Acute IFRAC[e] | 0.692 | 0.632 | 0.640 |
| Total acute patient recurrent expenditure (excl depreciation) ($m) | 3,109 | 4,245 | 1,058 |
| Total acute patient recurrent expenditure (incl depreciation) ($m) | 3,202 | 4,417 | 1,090 |
| **Cost per casemix-adjusted acute separation (excl depreciation)[f]** | **4,519** | **3,672** | **4,278** |
| Change from cost per casemix-adjusted separation for subset hospitals (%) | 0.3% | –12.2% | –4.5% |
| **Cost per casemix-adjusted acute separation (incl depreciation)[f]** | **4,647** | **3,817** | **4,401** |
| Change from cost per casemix-adjusted separation for subset hospitals (%) | 0.3% | –12.2% | –4.5% |
| Cost of non-acute separations in subset (excl depreciation) | | | |
| Per separation ($) | 3,384 | 23,511 | 14,010 |
| Per patient day ($) | 265 | 1,001 | 1,036 |
| Cost of non-acute separations in subset (incl depreciation) | | | |
| Per separation ($) | 3,485 | 24,465 | 14,429 |
| Per patient day ($) | 273 | 1,041 | 1,067 |
| **Cost per casemix-adjusted non-psychiatric acute separation** | | | |
| Non-psychiatric acute separations ('000)[c] | 643 | 1,212 | 258 |
| Non-psychiatric acute patient days ('000)[d] | 2,181 | 3,129 | 709 |
| Average cost weight[d] | 1.11 | 0.97 | 0.99 |
| Casemix-adjusted non-psychiatric acute separations ('000) | 715 | 1,172 | 254 |
| Non-psychiatric acute IFRAC[g] | 0.692 | 0.601 | 0.620 |
| Total non-psychiatric acute patient recurrent expenditure (excl depreciation) ($m) | 3,109 | 4,033 | 1,025 |
| Total non-psychiatric acute patient recurrent expenditure (incl depreciation) ($m) | 3,202 | 4,197 | 1,056 |
| **Cost per casemix-adjusted non-psychiatric acute separation (excl depreciation)[h]** | **4,661** | **3,618** | **4,256** |
| Change from cost per casemix-adjusted separation for subset hospitals (%) | 3.4% | –13.5% | –5.0% |
| **Cost per casemix-adjusted non-psychiatric acute separation (incl depreciation)[h]** | **4,793** | **3,760** | **4,379** |
| Change from cost per casemix-adjusted separation for subset hospitals (%) | 3.4% | –13.5% | –5.0% |
| Cost of non-acute non-psychiatric separations in subset (excl depreciation) | | | |
| Per separation ($) | 1,144 | 19,948 | 12,760 |
| Per patient day ($) | 77 | 952 | 937 |
| Cost of non-acute non-psychiatric separations in subset (incl depreciation) | | | |
| Per separation ($) | 1,179 | 20,758 | 13,141 |
| Per patient day ($) | 79 | 991 | 965 |

(a) Excludes psychiatric hospitals, sub-acute, non-acute and unpeered hospitals or services. The subset excludes hospitals where the IFRAC was equal to the acute IFRAC and more than 1,000 non-acute patient days were recorded. Also excludes hospitals where the apparent cost of non-acute patients exceeded $1,000 per day and more than $1,000,000 of expenditure on non-acute patients days was reported.

(b) Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded. Details of acute and non-acute separations and patient days are presented in Table A1.11.

(c) Separations where the care type is *Acute*, *Newborn* with qualified days, or *Not reported*. Psychiatric separations are those with psychiatric care days.

(d) Average cost weight based on separations as per footnote (c), using the 2006–07 AR-DRG version 5.1 cost weights (DoHA 2008).

(e) The acute IFRAC is that portion of recurrent costs which is for acute admitted patients.

(f) Includes adjustment for private patient medical costs: $258 for New South Wales, $127 for Victoria and $173 for Western Australia.

(g) The non-psychiatric acute IFRAC is that portion of recurrent costs which is for non-psychiatric acute admitted patients.

(h) Includes adjustment for private patient medical costs: $256 for New South Wales, $102 for Victoria and $164 for Western Australia.

**Table A1.13: Count of AR-DRGs[a] version 5.1 contributing to the relative stay index, by sector, and medical/surgical/other type of AR-DRG, states and territories, 2007–08**

| Type of hospital | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Public hospitals** | **632** | **632** | **630** | **629** | **625** | **576** | **564** | **501** | **632** |
| Medical | 323 | 323 | 323 | 323 | 320 | 310 | 304 | 292 | 323 |
| Surgical | 278 | 278 | 277 | 276 | 275 | 238 | 232 | 185 | 278 |
| Other | 31 | 31 | 30 | 30 | 30 | 28 | 28 | 24 | 31 |
| **Private hospitals** | **587** | **597** | **611** | **567** | **562** | **n.p.** | **n.p.** | **n.p.** | **623** |
| Medical | 307 | 309 | 316 | 296 | 288 | n.p. | n.p. | n.p. | 322 |
| Surgical | 255 | 260 | 267 | 248 | 250 | n.p. | n.p. | n.p. | 270 |
| Other | 25 | 28 | 28 | 23 | 24 | n.p. | n.p. | n.p. | 31 |
| ***All hospitals*** | **632** | **632** | **631** | **631** | **625** | **n.p.** | **n.p.** | **n.p.** | **632** |
| Medical | 323 | 323 | 323 | 323 | 320 | n.p. | n.p. | n.p. | 323 |
| Surgical | 278 | 278 | 278 | 278 | 275 | n.p. | n.p. | n.p. | 278 |
| Other | 31 | 31 | 30 | 30 | 30 | n.p. | n.p. | n.p. | 31 |

*Note:* There were 33 AR-DRGs excluded from the analysis including: AR-DRGs for rehabilitation, predominantly same-day AR-DRGs, AR-DRGs with a length of stay component in the definition and *Error AR-DRGs*.

**Table A1.15: Conditions (additional diagnoses) with onset during the episode of care, by ICD-10-AM disease chapter and same-day/overnight status, all hospitals, Victoria and Queensland, 2007–08**

| Diagnosis chapter | | Same-day separations | | | Overnight separations | | |
|---|---|---|---|---|---|---|---|
| | | Condition with onset during episode of care | Total additional diagnoses reported | % with condition onset during episode | Condition with onset during episode of care | Total additional diagnoses reported | % with condition onset during episode |
| A00–B99 | Certain infectious and parasitic diseases | 69 | 28,464 | 0.2 | 30,590 | 137,750 | 22.2 |
| C00–D48 | Neoplasms | 257 | 514,447 | 0.0 | 453 | 162,930 | 0.3 |
| D50–D89 | Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism | 194 | 23,130 | 0.8 | 24,021 | 94,224 | 25.5 |
| E00–E90 | Endocrine, nutritional and metabolic diseases | 280 | 170,979 | 0.2 | 51,099 | 503,077 | 10.2 |
| F00–F99 | Mental and behavioural disorders | 92 | 59,305 | 0.2 | 9,387 | 167,400 | 5.6 |
| G00–G99 | Diseases of the nervous system | 136 | 22,569 | 0.6 | 6,643 | 103,959 | 6.4 |
| H00–H59 | Diseases of the eye and adnexa | 224 | 30,340 | 0.7 | 3,306 | 35,593 | 9.3 |
| H60–H95 | Diseases of the ear and mastoid process | 13 | 4,749 | 0.3 | 1,067 | 11,762 | 9.1 |
| I00–I99 | Diseases of the circulatory system | 1,608 | 154,440 | 1.0 | 63,936 | 534,048 | 12.0 |
| J00–J99 | Diseases of the respiratory system | 384 | 18,682 | 2.1 | 33,429 | 149,967 | 22.3 |
| K00–K93 | Diseases of the digestive system | 355 | 244,374 | 0.1 | 39,582 | 202,350 | 19.6 |
| L00–L99 | Diseases of the skin and subcutaneous tissue | 423 | 21,608 | 2.0 | 17,717 | 74,702 | 23.7 |
| M00–M99 | Diseases of the musculoskeletal system and connective tissue | 207 | 51,340 | 0.4 | 12,626 | 129,138 | 9.8 |
| N00–N99 | Diseases of the genitourinary system | 207 | 376,457 | 0.1 | 27,426 | 207,790 | 13.2 |
| O00–O99 | Pregnancy, childbirth and the puerperium | 361 | 56,509 | 0.6 | 65,589 | 187,667 | 34.9 |
| P00–P96 | Certain conditions originating in the perinatal period | 82 | 2,524 | 3.2 | 8,299 | 61,554 | 13.5 |
| Q00–Q99 | Congenital malformations, deformations and chromosomal abnormalities | 8 | 10,869 | 0.1 | 148 | 19,703 | 0.8 |
| R00–R99 | Symptoms, signs and abnormal clinical and laboratory findings, n.e.c. | 4,652 | 84,320 | 5.5 | 119,769 | 398,139 | 30.1 |
| S00–T98 | Injury, poisoning and certain other consequences of external causes | 2,458 | 57,415 | 4.3 | 49,801 | 231,826 | 21.5 |
| Z00–Z99 | Factors influencing health status and contact with health services | 5,436 | 617,635 | 0.9 | 64,892 | 1,029,572 | 6.3 |
| **Total** | | **17,446** | **2,550,156** | **0.7** | **629,780** | **4,443,151** | **14.2** |

(a) Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.
*Abbreviations:* n.e.c.—Not elsewhere classified.

# Appendix 2: Hospitals databases: characteristics and coverage

This appendix includes information on the National Hospital Morbidity Database, the National Public Hospital Establishments Database, the National Elective Surgery Waiting Times Data Collection, the Non-admitted Patient Emergency Department Care Database and the National Outpatient Care Database. Also included is information on the hospitals contributing to each of the databases.

The appendix first presents information on whether privately-managed hospitals that predominantly provide public patient services are reported as public or private hospitals.

## Public and private hospitals

There is some variation between jurisdictions in whether hospitals that predominantly provide public hospital services, and that are privately owned and/or operated, are reported as public or private hospitals. A selection of these hospitals is listed in Table A2.1 with information on whether they are reported as public or private hospitals. These categorisations are the practices for this report, and reports produced by other agencies may categorise these hospitals differently.

For example, Peel and Joondalup hospitals are private hospitals that treat predominantly public patients under contract to the Department of Health (Western Australia). From 2006–07, two new reporting units (public hospitals) were created to cover the public health services of these two hospitals, whereas in previous years all activity was reported for the private hospitals. Hawkesbury District Health Service and Port Macquarie Base hospital were categorised as private hospitals in *The state of our public hospitals, June 2005* report (DoHA 2005) and *Australian hospital statistics 2002–03* (AIHW 2004a) however they were

**Table A2.1: Selected hospitals included in this report that predominantly provide public hospital services, that were privately owned and/or operated, 2007–08**

| State | Hospital | How reported |
|---|---|---|
| NSW | Hawkesbury District Health Service | Public hospital |
| Vic | Mildura Base | Public hospital |
| Qld | Noosa | Private hospital |
| WA | Joondalup | Public hospital for services provided under the contract and a private hospital for services provided to private patients |
| WA | Peel | Public hospital for services provided under the contract and a private hospital for services provided to private patients |
| SA | Southern Districts War Memorial Private Hospital | Public hospital for services provided under the contract and a private hospital for services provided to private patients |
| Tas | May Shaw District Nursing Centre | Public hospital (did not provide financial information) |
| Tas | Toosey | Public hospital |
| Tas | Mersey Community Hospital (from November 2007) | Private hospital for admitted patient data; included with public hospitals for elective surgery waiting times, emergency department, outpatient care and other non-admitted patient services. |

categorised as public hospitals in AIHW reports since 2003–04 and in *The state of our public hospitals*, since the June 2006 report (DoHA 2006). Southern Districts War Memorial Hospital is a private hospital that treats public patients under contract to the Department of Health (South Australia). Since 2003–04, the AIHW has categorised Southern Districts War Memorial as a public hospital for services provided under the contract and as a private hospital for services provided to private patients.

Other changes in hospital ownership or management arrangements can also affect whether hospital activity is reported as public or private. For example, between 2003–04 and 2004–05, two private hospitals in Western Australia were purchased by the Western Australian Department of Health and were amalgamated with two existing public hospitals. Hence, the activity associated with the former private hospitals is now included in the activity reporting of the two public hospitals.

### Mersey Community Hospital

Mersey Community Hospital in Tasmania, was a public hospital from 2004–05 until the end of October 2007. It was taken over by the Australian Government in November 2007, predominantly providing public hospital services between November 2007 and June 2008. Mersey Community Hospital was reported as a private hospital in this report for that period, however, data for elective surgery waiting times, emergency department, outpatient care and other non-admitted patient services are included with data for Tasmanian public hospitals. This reflects the fact that the Mersey Community Hospital maintained elective surgery waiting lists for its patients and provided emergency department, outpatient care and other non-admitted patient services, as public hospitals do.

## The National Hospital Morbidity Database

The National Hospital Morbidity Database (NHMD) is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals. 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. Public sector hospitals that are not included are 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 offshore territories).

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 presented in *Appendix 1*.

## NHMD data for this report

All public hospitals were included for 2007–08. The exception was a mothercraft hospital in the Australian Capital Territory.

The great majority of private hospitals were also included, although there were a few not included, mainly free-standing day hospital facilities. Data were not provided for 2007–08 for private day hospital facilities in the Australian Capital Territory, for the single private free-standing day hospital facility in the Northern Territory and for a small private hospital in Victoria. Victoria estimated that its data were essentially complete. Counts of private hospital separations presented in this report are therefore likely to be underestimates of the actual counts.

Table A2.2 summarises this coverage information by state and territory and by hospital sector, and Tables A2.3 and A2.4 (accompanying this report on the Internet at <www.aihw.gov.au>) list the public and private hospitals that contributed to the NHMD for 2007–08. For public hospitals, also included in the Internet tables is information on their average available bed numbers, their peer group (see *Appendix 1*) and the statistical local area and remoteness area of their location. The list of private hospitals includes information on whether each was a private free-standing day hospital facility.

**Table A2.2: Coverage of hospitals in the National Hospital Morbidity Database, by hospital sector, states and territories, 2007–08**

| | Public acute hospitals | Public psychiatric hospitals | Private free-standing day hospital facilities | Other private hospitals |
|---|---|---|---|---|
| NSW | Complete | Complete | Complete | Complete |
| Vic | Complete | Complete | Complete | Complete |
| Qld | Complete | Complete | Complete | Complete |
| WA | Complete | Complete | Complete | Complete |
| SA | Complete | Complete | Complete | Complete |
| Tas | Complete | Complete | Complete | Complete |
| ACT | Incomplete | Not applicable | Incomplete | Complete |
| NT | Complete | Not applicable | Incomplete | Complete |

*Note:* Complete—all facilities reported data to the National Hospital Morbidity Database. Incomplete—some facilities did not provide data to the National Hospital Morbidity Database; see text for more details. Not applicable—there are no facilities in this sector for this state or territory.

For Tasmania, some private hospital data were not available for some periods in 2004–05, resulting in an under-enumeration of approximately 21% for Tasmanian private hospitals.

There is some variation between states in what is regarded as a hospital and how facilities are licensed and how this affects the collection. For example, in recent years the coverage of the Queensland and Victorian collections expanded to include facilities providing same-day services not previously included. The apparent increase for some types of separations in the private sector was affected by the registration of relevant facilities as hospitals for the first time in Queensland in 2001 and in Victoria in 2002–03. These facilities had previously been categorised as non-hospital facilities and were therefore out of scope for the NHMD.

## Coverage estimates for private hospital separations

As noted above, not all private hospital separations are included in the NHMD, so the counts of private hospital separations presented in this report may be slight underestimates.

Over recent years, at the national level there have been slightly fewer separations reported to the NHMD (particularly for private free-standing day hospital facilities) than to the Australian Bureau of Statistics (ABS) Private Health Establishments Collection (ABS 2008b) (Table A2.5). The latter collection includes all private acute and psychiatric hospitals licensed by state and territory health authorities and all private free-standing day hospital facilities approved by the Department of Health and Ageing. In 2006–07, the difference was 109,168 separations (3.7%).

**Table A2.5: Differences between private hospital separations on the National Hospital Morbidity Database and reported to the ABS Private Health Establishments Collection, 2000–01 to 2006–07**

| | Private free-standing day hospital facilities | | Other private hospitals | | Total | |
|---|---|---|---|---|---|---|
| Year | Separations | Per cent | Separations | Per cent | Separations | Per cent |
| 2000–01[a] | 56,816 | 14.6 | 21,649 | 1.1 | 80,655 | 3.4 |
| 2001–02[b] | 41,002 | 9.8 | 52,727 | 2.6 | 118,064 | 4.6 |
| 2002–03[b] | 2,094 | 0.5 | 32,942 | 1.6 | 47,755 | 1.8 |
| 2003–04[b] | 4,348 | 0.9 | 28,268 | 1.4 | 47,279 | 1.8 |
| 2004–05 | 1,214 | 0.2 | 40,286 | 1.8 | 39,072 | 1.4 |
| 2005–06 | 32,437 | 5.9 | 46,457 | 2.0 | 78,894 | 2.8 |
| 2006–07 | 60,852 | 10.7 | 48,316 | 2.0 | 109,168 | 3.7 |

(a) The type of private hospital establishment was unspecified for Tasmanian private hospitals reporting to the National Hospital Morbidity Database. The differences for private free-standing day hospital facilities and other private hospitals exclude Tasmania but the total for all private hospitals includes Tasmania.

(b) The type of private hospital establishment was unspecified for Tasmanian private hospitals reporting to the National Hospital Morbidity Database and the ABS suppressed data for Tasmania, the Australian Capital Territory and the Northern Territory. The difference for private free-standing day hospital facilities and other private hospitals exclude Tasmania, the Australian Capital Territory and the Northern Territory but the total for all private hospitals includes Tasmania, the Australian Capital Territory and the Northern Territory.

*Source:* ABS, unpublished Private Health Establishments Collection data.

For individual states (tables A2.6a to A2.6n accompanying this report on the Internet at <www.aihw.gov.au>), the patterns of differences between number of separations reported to the NHMD compared with the ABS Private Health Establishments Collection varied. This reflects the omission of some private hospitals from the NHMD. However, there are differences even when both collections are reported to be complete. For example, for 2006–07, more separations were reported to the NHMD than to the ABS for private free-standing day hospital facilities in Western Australia. The discrepancies may have been due to the use of differing definitions (for example, differing counting rules for *Newborn* episodes of care) or different interpretations of definitions, differing definitions of what is a hospital, or differences in the quality of the data provided for different purposes.

Private Health Establishments Collection data were not collected for 2007–08.

# The National Public Hospital Establishments Database

The National Public Hospital Establishments Database (NPHED) holds establishment-level data for each public hospital in Australia, including public acute hospitals, psychiatric hospitals, drug and alcohol hospitals, and dental hospitals in all states and territories. The collection covers hospitals within the jurisdiction of the state and territory health authorities only. Hence, public hospitals not administered by the state and territory health authorities (hospitals operated by the Department of Health and Ageing, Department of Defence or correctional authorities, for example, and hospitals located in offshore territories) are not included. Public hospitals are categorised by the AIHW into peer groups, as described in *Appendix 1*.

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. Summary information on data quality and comparability is presented in *Chapter 3*.

## NPHED data for this report

Essentially all public hospitals were included for 2007–08. Table A2.3 (accompanying this report on the Internet) lists the public hospitals that contributed to the NPHED for 2007–08. Also included is information on their average available bed numbers, their peer group and the statistical local area and remoteness area of their location.

# The National Non-admitted Patient Emergency Department Care Database

The National Non-admitted Patient Emergency Department Care Database (NNAPEDCD) includes episode-level data on non-admitted patients treated in the emergency departments of selected public hospitals. It covers public hospitals that were classified as peer groups A (*Principal referral and Specialist Women's and children's hospitals*) and B (*Large hospitals*) in *Australian hospital statistics 2006–07* (AIHW 2008a).

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 episode end status.

## NNAPEDCD data for this report

For 2007–08, all states and territories were able to provide data for all public hospitals in peer groups A and B that have emergency departments. The Northern Territory supplied episode-level data for all public hospitals; New South Wales provided data for 20 *Medium hospitals* and 8 *Small hospitals*; Victoria provided data for 5 *Medium hospitals*; South Australia provided data for 1 *Medium hospital*; and Western Australia provided data for 2 *Medium*

*hospitals*, 1 *Small regional hospital* and 1 *Small remote hospitals*. The data reported for Tasmania included data for the Mersey Community Hospital from November 2007, when it was reported as a private hospital. The estimated overall coverage was 78% of all public hospitals accident and emergency occasions of service, including the Mersey Community Hospital.

Table 5.1 provides further information on the coverage by public hospital peer group. The list of public hospitals that contributed to the NPHED (Table A2.2 accompanying this report on the Internet) includes information on which hospitals were also included in the NNAPEDCD for 2007–08.

The data presented in this report are for patients treated between 1 July 2007 and 30 June 2008. 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 NPHED. These data have wider coverage than data provided for the NNAPEDCD, as detailed in *Chapter 5*.

# The National Elective Surgery Waiting Times Data Collection

The National Elective Surgery Waiting Times Data Collection (NESWTDC) provides episode-level data on patients waiting for elective surgery on waiting lists managed by public acute hospitals.

The data supplied are based on the National Minimum Data Set for Elective surgery waiting times (removals and census). Included is information on the length of time waited, the surgical specialty and indicator procedures. For some states and territories, the data are provided linked to the NHMD data on the admitted patient episode of care for which the patient was waiting. Census data are not reported in *Australian hospital statistics*.

## NESWTDC data for this report

As noted above, the data collection covers public acute hospitals. However, some public patients treated under contract in private hospitals in Victoria and Tasmania were also included. In addition, data for the Mersey Community Hospital are included with the Tasmanian data.

All public hospitals that undertake elective surgery are generally included, but some are not. Based on the proportions of elective surgery admissions that were covered by the NESWTDC, national coverage was about 91%, and ranged from 100% in New South Wales, Tasmania, the Australian Capital Territory and the Northern Territory, to about 70% in South Australia (Table 6.2). Coverage was highest for *Principal referral and Specialist women's and children's hospitals* at 100%, and progressively lower for the *Large hospitals* and *Medium hospitals* groups.

Tables 6.1 and 6.2 provide further information on the coverage by public hospital peer group. The list of public hospitals that contributed to the NPHED (Table A2.3 accompanying this report on the Internet) includes information on which hospitals were also included in the NESWTDC for 2007–08.

The data presented in this report are for patients admitted for elective surgery between 1 July 2007 and 30 June 2008.

# The National Outpatient Care Database

The National Outpatient Care Database (NOCD) includes counts of individual occasions of service and group sessions by outpatient clinic type for selected public hospitals. It covers public hospitals that were classified in the public hospital peer groups of *Principal referral and Specialist women's and children's* hospitals and *Large hospitals* in the previous year's *Australian hospital statistics*..

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.

## NOCD data for this report

Public hospitals classified as *Principal referral and Specialist women's and children's hospitals* and *Large hospitals* in *Australian hospital statistics 2006–07* (AIHW 2008a) provided 2007–08 data for the NOCD. Some states and territories were also able to provide data for hospitals in other peer groups, and the data reported for Tasmania included data for the Mersey Community Hospital from November 2007, when it was reported as a private hospital. Coverage was about 72% of individual public hospital outpatient clinic occasions of service overall and about 66% for group occasions of service (including Mersey Community Hospital).

More information about the coverage of this data collection (which is more complete for larger hospitals) is presented in *Chapter 5*. The list of public hospitals that contributed to the NPHED (Table A2.3 accompanying this report on the Internet) includes information on which hospitals were also included in the NOCD for 2007–08.

The data presented in this report are for patients treated between 1 July 2007 and 30 June 2008. 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 NPHED. These data have wider coverage than data provided for the NOCD, as detailed in *Chapter 5*.

# Appendix 3: National Hospital Cost Data Collection

The National Hospital Cost Data Collection (NHCDC) was established to produce annual updates of Australian Refined Diagnosis Related Group (AR-DRG) cost weights and estimated average costs, as incorporated into tables in *Chapters 2, 4, 7* and *12*. This report uses the cost data for acute admitted patients only. Unless otherwise specified, the cost weight data in this report for public hospitals use AR-DRG version 5.1 and cost weight data for AR-DRG version 5.1 (DoHA 2008).

The NHCDC is a voluntary collection of hospital cost and activity data covering the financial year before the collection period, and is coordinated by the Australian Government Department of Health and Ageing. Both public and private hospital data are included, with the results separately reported for the two sectors. The latest data available at the time of publication of this report were for the 2006–07 financial year (Round 11) for public hospitals and private hospitals (DoHA 2008).

The NHCDC involves arrangements whereby the hospital data are collected by the individual hospitals, and checked and validated by state/territory/private sector coordinators before being passed on to the Department of Health and Ageing. The production and publication of the final cost weights and associated tables follow extensive quality assurance procedures undertaken by the department, and endorsement of the results by the states, territories and private sector.

The participating hospitals include both patient costing and cost modelling sites. Cost modelling refers to a process where estimates of costs are produced at the level of each AR-DRG. Cost modelling is a 'top down' approach where costs from the hospitals' general ledgers are allocated to acute admitted patients using a series of allocation statistics. Patient costing is a 'bottom up' approach where the costs of each service provided to an individual patient are measured or estimated to obtain the total cost of treating individual patients.

In 2006–07, 238 public hospitals and 82 private hospitals were included in the collection. Although the coverage of public hospitals was approximately 47% of all public hospitals, the total number of separations was approximately 89% of total acute separations within the year. The coverage of private hospitals was approximately 36% of all private hospitals and the total number of separations was approximately 59% (DoHA 2008). The average cost per separation was estimated at $3,722 for public hospitals and $2,749 for private hospitals for 2006–07. The NHCDC's estimate includes an estimate for depreciation.

Further information is provided in the NHCDC report for 2006–07 (DoHA 2008). Cost weights and associated tables for each round of the NHCDC can be obtained from the Department of Health and Ageing on the Casemix website at <www.health.gov.au>.

# Appendix 4: Service related groups

## Introduction

The Service related group (SRG) classification is based on Australian Refined Diagnosis Related Group (AR-DRG) aggregations and categorises admitted patient episodes into groups representing clinical divisions of hospital activity. SRGs are used to assist in the planning of services, analysing and comparing hospital activity, examining patterns of service needs and access, and projecting potential trends in services. For this purpose, the AR-DRG system was not considered appropriate as it contains too many classes. Both the Major Diagnostic Categories (MDC) and the *International statistical classification of diseases and related health problems, 10th revision, Australian modification* (ICD-10-AM) were also considered unsuitable as they generally relate to body systems rather than services.

An example illustrating the assignment of selected procedures to SRGs is shown below. These examples illustrate the differences between categorising procedures on the basis of ICD-10-AM chapters, MDCs and SRGs.

| Procedure | ICD-10-AM chapter | MDC | SRG |
|---|---|---|---|
| Extraction of wisdom teeth | Diseases of the digestive system | MDC 3<br>Ear nose and throat | Dentistry |
| Endoscopic retrograde cholangiopancreatography (ERCP) | Diseases of the digestive system | MDC 6<br>Digestive system | Gastroenterology |
| Excision of haemorrhoids | Diseases of the digestive system | MDC 6<br>Digestive system | Colorectal surgery |

For the *Australian hospital statistics* 2001–02 to 2004–05 reports, this analysis used a method based on AR-DRG version 4.2, originally developed by the New South Wales Department of Health and the Australian Government Department of Health and Ageing.

The methodology used in *Australian hospital statistics 2005–06* and *2006–07* (AIHW 2007a, 2008a) and this report for assigning SRGs based on AR-DRG versions 5.0 and 5.1 was developed by the New South Wales Department of Health (unpublished). For more information on the methodology used to assign SRGs, see Table A4.6 in the Internet version of this report.

SRGs were allocated using the data in the National Hospital Morbidity Database. The method largely involves aggregations of AR-DRG information. However, the assignment of some separations to SRGs is based on other information, such as procedures, diagnoses and care types. Separations with non-acute care are allocated to separate SRG categories according to the type of care because the main service type of these separations cannot be ascertained from their diagnoses or procedures. For public hospitals, separations may also have been assigned to certain specialist SRGs depending on whether or not the hospital had a specialist neurosurgery, perinatology (neonatal intensive care unit) or cardiothoracic unit, as appropriate, as reported to the National Public Hospital Establishments Database (see *Chapter 3*). An 'unallocated' SRG is assigned for separations with an *Error DRG* (see *Chapter 12*). The classification also incorporates non-specialist SRGs, which are used for

smaller hospitals that do not have the specialist services or specialist equipment. There are 49 SRGs as presented in Table A4.1.

## State and territory overview

Table A4.1 contains the number of establishments with more than 50 separations and the number of establishments with more than 360 patient days in each SRG by state and territory and by remoteness area for public hospitals only. This has been included as an indicative measure of the number of specialty units. The best indicative measure of the number of units varies between SRGs and between uses of the measure. For example, for *Maintenance* (SRG 87), 82 hospitals provided more than 50 separations a year and 288 hospitals provided more than 360 patient days, and for *Gastroenterology* (SRG 15) these measures were 348 and 210 hospitals, respectively. *Cardiothoracic surgery* (SRG 42) showed no difference between the two different measures, with 28 units under both measures.

*Cardiology* (SRG 11) and *Respiratory medicine* (SRG 24) had the greatest number of establishments, with more than 50 separations at 388 and 387 hospitals, respectively. *Respiratory medicine* (SRG 24) and *Maintenance* (SRG 87) had the greatest number of establishments with more that 360 patient days a year, with 321 and 288 hospitals, respectively.

Tables A4.2 and A4.3 (accompanying this report on the Internet at <www.aihw.gov.au>) contain the number of separations in each SRG category by state and territory for all public and private hospitals, respectively. *Renal dialysis* (SRG 23) had the largest number of separations in public hospitals with over 817,000, followed by *Obstetrics* (SRG 72) with 315,000. In the private sector, *Diagnostic gastrointestinal endoscopy* (SRG 16) recorded the highest number of separations with almost 330,000, followed by *Orthopaedics* (SRG 49) with 273,000.

Tables A4.4 and A4.5 in the Internet version of this publication summarise the number of patient days in each sector by SRG and state and territory. In the public sector, *Acute psychiatry* (SRG 82) recorded the highest number of patient days with 1,493,000, and *Orthopaedics* (SRG 49) recorded the highest in the private sector with 784,000 days.

**Table A4.1: Number of hospitals with more than 50 separations[(a)] and with more than 360 patient days in each SRG, by SRG and remoteness area, public hospitals, 2007–08**

| | NSW | | Vic | | Qld | | WA | | SA | | Tas | | ACT | | NT | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service related group | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days |
| 11 Cardiology | 141 | 105 | 73 | 59 | 85 | 45 | 30 | 21 | 45 | 27 | 7 | 4 | 2 | 2 | 5 | 3 | 388 | 266 |
| Major cities | 38 | 38 | 22 | 21 | 13 | 11 | 6 | 6 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 90 | 87 |
| Regional | 93 | 66 | 51 | 38 | 59 | 31 | 17 | 11 | 31 | 16 | 6 | 4 | . . | . . | 1 | 1 | 258 | 167 |
| Remote | 10 | 1 | 0 | 0 | 13 | 3 | 7 | 4 | 5 | 2 | 1 | 0 | . . | . . | 4 | 2 | 40 | 12 |
| 12 Interventional Cardiology | 30 | 28 | 14 | 13 | 6 | 6 | 4 | 3 | 4 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 62 | 58 |
| Major cities | 25 | 23 | 11 | 11 | 4 | 4 | 4 | 3 | 4 | 4 | . . | . . | 1 | 1 | . . | . . | 49 | 46 |
| Regional | 5 | 5 | 3 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | . . | . . | 1 | 1 | 13 | 12 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 0 |
| 13 Dermatology | 32 | 10 | 23 | 9 | 20 | 6 | 9 | 4 | 7 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 96 | 35 |
| Major cities | 24 | 10 | 18 | 9 | 11 | 5 | 5 | 4 | 7 | 3 | . . | . . | 1 | 1 | . . | . . | 66 | 32 |
| Regional | 8 | 0 | 5 | 0 | 8 | 1 | 4 | 0 | 0 | 0 | 2 | 1 | . . | . . | 1 | 1 | 28 | 3 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 1 | 0 | 2 | 0 |
| 14 Endocrinology | 62 | 54 | 34 | 31 | 32 | 23 | 15 | 11 | 13 | 11 | 3 | 3 | 2 | 2 | 3 | 2 | 164 | 137 |
| Major cities | 34 | 34 | 20 | 20 | 12 | 12 | 7 | 7 | 9 | 8 | . . | . . | 2 | 2 | . . | . . | 84 | 83 |
| Regional | 28 | 20 | 14 | 11 | 19 | 10 | 8 | 4 | 4 | 3 | 3 | 3 | . . | . . | 1 | 1 | 77 | 52 |
| Remote | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 2 | 1 | 3 | 2 |
| 15 Gastroenterology | 115 | 80 | 76 | 48 | 69 | 35 | 37 | 23 | 40 | 16 | 4 | 3 | 2 | 2 | 5 | 3 | 348 | 210 |
| Major cities | 38 | 37 | 27 | 23 | 13 | 12 | 9 | 9 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 98 | 92 |
| Regional | 75 | 43 | 49 | 25 | 47 | 22 | 18 | 11 | 27 | 6 | 4 | 3 | . . | . . | 1 | 1 | 221 | 111 |
| Remote | 2 | 0 | 0 | 0 | 9 | 1 | 10 | 3 | 4 | 1 | 0 | 0 | . . | . . | 4 | 2 | 29 | 7 |
| 16 Diagnostic GI Endoscopy | 82 | 54 | 59 | 36 | 38 | 22 | 28 | 16 | 10 | 8 | 3 | 4 | 2 | 2 | 3 | 1 | 225 | 143 |
| Major cities | 34 | 34 | 19 | 17 | 12 | 11 | 9 | 9 | 8 | 7 | . . | . . | 2 | 2 | . . | . . | 84 | 80 |
| Regional | 48 | 20 | 40 | 19 | 23 | 11 | 14 | 7 | 2 | 1 | 3 | 4 | . . | . . | 1 | 1 | 131 | 63 |
| Remote | 0 | 0 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | . . | . . | 2 | 0 | 10 | 0 |
| 17 Haematology | 51 | 32 | 40 | 24 | 24 | 16 | 11 | 6 | 13 | 8 | 3 | 3 | 2 | 1 | 2 | 1 | 146 | 91 |
| Major cities | 26 | 23 | 21 | 16 | 11 | 9 | 6 | 5 | 8 | 7 | . . | . . | 2 | 1 | . . | . . | 74 | 61 |
| Regional | 25 | 9 | 19 | 8 | 13 | 7 | 4 | 1 | 5 | 1 | 3 | 3 | . . | . . | 1 | 1 | 70 | 30 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | . . | . . | 1 | 0 | 2 | 0 |
| 18 Immunology & Infections | 91 | 66 | 49 | 42 | 60 | 35 | 28 | 17 | 20 | 11 | 3 | 3 | 2 | 2 | 5 | 5 | 258 | 181 |
| Major cities | 36 | 35 | 23 | 23 | 13 | 12 | 6 | 6 | 9 | 8 | . . | . . | 2 | 2 | . . | . . | 89 | 86 |
| Regional | 53 | 31 | 26 | 19 | 39 | 21 | 10 | 7 | 9 | 3 | 3 | 3 | . . | . . | 1 | 1 | 141 | 85 |
| Remote | 2 | 0 | 0 | 0 | 8 | 2 | 12 | 4 | 2 | 0 | 0 | 0 | . . | . . | 4 | 4 | 28 | 10 |
| 19 Medical Oncology | 62 | 61 | 43 | 42 | 26 | 22 | 15 | 13 | 14 | 13 | 3 | 4 | 2 | 2 | 2 | 2 | 167 | 159 |
| Major cities | 31 | 33 | 23 | 20 | 13 | 10 | 7 | 6 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 85 | 80 |
| Regional | 31 | 28 | 20 | 22 | 12 | 11 | 8 | 7 | 5 | 4 | 3 | 4 | . . | . . | 1 | 1 | 80 | 77 |
| Remote | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 1 | 1 | 2 | 2 |

*(continued)*

**Table A4.1 (continued): Number of hospitals with more than 50 separations[(a)] and with more than 360 patient days in each SRG, by SRG and remoteness area, public hospitals, 2007–08**

| Service related group | NSW | | Vic | | Qld | | WA | | SA | | Tas | | ACT | | NT | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days |
| 20 Chemotherapy | 13 | 2 | 38 | 31 | 21 | 12 | 10 | 8 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 1 | 87 | 56 |
| Major cities | 11 | 2 | 19 | 17 | 7 | 4 | 5 | 5 | 0 | 0 | . . | . . | 2 | 1 | . . | . . | 44 | 29 |
| Regional | 2 | 0 | 19 | 14 | 13 | 8 | 5 | 3 | 0 | 0 | 1 | 1 | . . | . . | 1 | 1 | 41 | 27 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 1 | 0 | 2 | 0 |
| 21 Neurology | 103 | 90 | 60 | 49 | 56 | 35 | 26 | 21 | 37 | 17 | 6 | 5 | 2 | 2 | 3 | 3 | 293 | 222 |
| Major cities | 37 | 43 | 23 | 23 | 13 | 12 | 8 | 9 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 92 | 98 |
| Regional | 63 | 47 | 37 | 26 | 39 | 22 | 12 | 11 | 25 | 7 | 6 | 5 | . . | . . | 1 | 1 | 183 | 119 |
| Remote | 3 | 0 | 0 | 0 | 4 | 1 | 6 | 1 | 3 | 1 | 0 | 0 | . . | . . | 2 | 2 | 18 | 5 |
| 22 Renal Medicine | 68 | 50 | 46 | 34 | 28 | 23 | 15 | 10 | 12 | 8 | 3 | 3 | 2 | 2 | 3 | 3 | 177 | 133 |
| Major cities | 36 | 31 | 30 | 25 | 13 | 13 | 6 | 6 | 8 | 7 | . . | . . | 2 | 2 | . . | . . | 95 | 84 |
| Regional | 32 | 19 | 16 | 9 | 14 | 9 | 7 | 4 | 4 | 1 | 3 | 3 | . . | . . | 1 | 1 | 77 | 46 |
| Remote | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | . . | . . | 2 | 2 | 5 | 3 |
| 23 Renal Dialysis | 49 | 39 | 54 | 46 | 16 | 15 | 11 | 11 | 14 | 11 | 2 | 2 | 1 | 1 | 4 | 4 | 151 | 129 |
| Major cities | 14 | 14 | 20 | 19 | 7 | 6 | 6 | 6 | 7 | 6 | . . | . . | 1 | 1 | . . | . . | 55 | 52 |
| Regional | 31 | 24 | 34 | 27 | 9 | 9 | 4 | 4 | 5 | 3 | 2 | 2 | . . | . . | 1 | 1 | 86 | 70 |
| Remote | 4 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 0 | 0 | . . | . . | 3 | 3 | 10 | 7 |
| 24 Respiratory Medicine | 136 | 122 | 72 | 71 | 83 | 56 | 40 | 28 | 41 | 31 | 8 | 6 | 2 | 2 | 5 | 5 | 387 | 321 |
| Major cities | 38 | 39 | 23 | 23 | 13 | 12 | 7 | 8 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 92 | 93 |
| Regional | 88 | 78 | 49 | 48 | 57 | 39 | 20 | 14 | 26 | 19 | 8 | 6 | . . | . . | 1 | 1 | 249 | 205 |
| Remote | 10 | 5 | 0 | 0 | 13 | 5 | 13 | 6 | 6 | 3 | 0 | 0 | . . | . . | 4 | 4 | 46 | 23 |
| 25 Rheumatology | 16 | 12 | 14 | 6 | 13 | 5 | 6 | 3 | 6 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 60 | 32 |
| Major cities | 15 | 12 | 11 | 6 | 6 | 3 | 4 | 3 | 6 | 3 | . . | . . | 2 | 1 | . . | . . | 44 | 28 |
| Regional | 1 | 0 | 3 | 0 | 7 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | . . | . . | 1 | 0 | 16 | 4 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 0 |
| 26 Pain Management | 40 | 8 | 34 | 12 | 19 | 4 | 11 | 3 | 9 | 3 | 3 | 1 | 2 | 1 | 2 | 0 | 120 | 32 |
| Major cities | 27 | 8 | 20 | 11 | 10 | 3 | 8 | 3 | 6 | 3 | . . | . . | 2 | 1 | . . | . . | 73 | 29 |
| Regional | 13 | 0 | 14 | 1 | 9 | 1 | 3 | 0 | 2 | 0 | 3 | 1 | . . | . . | 1 | 0 | 45 | 3 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | . . | . . | 1 | 0 | 2 | 0 |
| 27 Subspecialty | 109 | 96 | 76 | 59 | 58 | 37 | 35 | 21 | 27 | 24 | 4 | 7 | 2 | 2 | 5 | 4 | 316 | 250 |
| Major cities | 43 | 46 | 30 | 27 | 14 | 13 | 10 | 11 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 108 | 108 |
| Regional | 63 | 49 | 46 | 32 | 38 | 22 | 15 | 9 | 16 | 12 | 4 | 7 | . . | . . | 1 | 1 | 183 | 132 |
| Remote | 3 | 1 | 0 | 0 | 6 | 2 | 10 | 1 | 2 | 3 | 0 | 0 | . . | . . | 4 | 3 | 25 | 10 |
| 41 Breast Surgery | 31 | 5 | 22 | 10 | 15 | 4 | 5 | 2 | 5 | 4 | 3 | 0 | 1 | 0 | 1 | 0 | 83 | 25 |
| Major cities | 19 | 5 | 15 | 10 | 6 | 4 | 4 | 2 | 5 | 4 | . . | . . | 1 | 0 | . . | . . | 50 | 25 |
| Regional | 12 | 0 | 7 | 0 | 9 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | . . | . . | 1 | 0 | 33 | 0 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 0 |
| 42 Cardiothoracic Surgery | 10 | 10 | 7 | 7 | 3 | 3 | 4 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 28 | 28 |
| Major cities | 10 | 10 | 7 | 7 | 2 | 2 | 4 | 4 | 2 | 2 | . . | . . | 1 | 1 | . . | . . | 26 | 26 |
| Regional | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | . . | . . | 0 | 0 | 2 | 2 |

*(continued)*

**Table A4.1 (continued): Number of hospitals with more than 50 separations[(a)] and with more than 360 patient days in each SRG, by SRG and remoteness area, public hospitals, 2007–08**

| | NSW | | Vic | | Qld | | WA | | SA | | Tas | | ACT | | NT | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service related group | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days |
| 43 Colorectal Surgery | 75 | 54 | 48 | 36 | 32 | 21 | 21 | 12 | 18 | 11 | 3 | 3 | 2 | 2 | 2 | 2 | 201 | 141 |
| Major cities | 34 | 33 | 25 | 20 | 12 | 12 | 9 | 8 | 9 | 8 | . . | . . | 2 | 2 | . . | . . | 91 | 83 |
| Regional | 41 | 21 | 23 | 16 | 19 | 9 | 8 | 4 | 8 | 2 | 3 | 3 | . . | . . | 1 | 1 | 103 | 56 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 1 | 1 | 0 | 0 | . . | . . | 1 | 1 | 7 | 2 |
| 44 Upper GIT Surgery | 66 | 50 | 44 | 35 | 32 | 22 | 23 | 11 | 16 | 8 | 3 | 3 | 2 | 2 | 3 | 2 | 189 | 133 |
| Major cities | 33 | 32 | 22 | 20 | 12 | 12 | 9 | 6 | 9 | 7 | . . | . . | 2 | 2 | . . | . . | 87 | 79 |
| Regional | 33 | 18 | 22 | 15 | 19 | 10 | 9 | 5 | 6 | 1 | 3 | 3 | . . | . . | 1 | 1 | 93 | 53 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | . . | . . | 2 | 1 | 9 | 1 |
| 45 Head & Neck Surgery | 14 | 9 | 12 | 5 | 9 | 2 | 3 | 2 | 3 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 44 | 20 |
| Major cities | 13 | 9 | 11 | 5 | 6 | 2 | 3 | 2 | 3 | 2 | . . | . . | 1 | 0 | . . | . . | 37 | 20 |
| Regional | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | . . | . . | 0 | 0 | 7 | 0 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 0 |
| 46 Neurosurgery | 13 | 13 | 7 | 7 | 6 | 6 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 34 | 34 |
| Major cities | 13 | 13 | 7 | 7 | 5 | 5 | 3 | 3 | 3 | 3 | . . | . . | 1 | 1 | . . | . . | 32 | 32 |
| Regional | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | . . | . . | 0 | 0 | 2 | 2 |
| 47 Dentistry | 32 | 2 | 28 | 6 | 22 | 3 | 10 | 1 | 10 | 2 | 3 | 0 | 2 | 0 | 3 | 0 | 110 | 14 |
| Major cities | 14 | 2 | 8 | 3 | 10 | 3 | 3 | 1 | 3 | 2 | . . | . . | 2 | 0 | . . | . . | 40 | 11 |
| Regional | 18 | 0 | 20 | 3 | 11 | 0 | 5 | 0 | 6 | 0 | 3 | 0 | . . | . . | 1 | 0 | 64 | 3 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | . . | . . | 2 | 0 | 6 | 0 |
| 48 Ear, Nose & Throat | 61 | 33 | 56 | 28 | 26 | 13 | 19 | 8 | 23 | 7 | 3 | 2 | 2 | 2 | 3 | 2 | 193 | 95 |
| Major cities | 34 | 23 | 23 | 19 | 10 | 8 | 9 | 6 | 8 | 7 | . . | . . | 2 | 2 | . . | . . | 86 | 65 |
| Regional | 27 | 10 | 33 | 9 | 15 | 5 | 7 | 2 | 13 | 0 | 3 | 2 | . . | . . | 1 | 1 | 99 | 29 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | . . | . . | 2 | 1 | 8 | 1 |
| 49 Orthopaedics | 111 | 94 | 64 | 55 | 62 | 41 | 34 | 27 | 37 | 26 | 4 | 5 | 2 | 2 | 5 | 4 | 319 | 254 |
| Major cities | 40 | 41 | 23 | 22 | 13 | 13 | 11 | 11 | 10 | 10 | . . | . . | 2 | 2 | . . | . . | 99 | 99 |
| Regional | 69 | 53 | 41 | 33 | 41 | 26 | 15 | 11 | 23 | 15 | 4 | 5 | . . | . . | 1 | 1 | 194 | 144 |
| Remote | 2 | 0 | 0 | 0 | 8 | 2 | 8 | 5 | 4 | 1 | 0 | 0 | . . | . . | 4 | 3 | 26 | 11 |
| 50 Ophthalmology | 54 | 25 | 43 | 15 | 25 | 11 | 20 | 13 | 19 | 8 | 3 | 1 | 2 | 2 | 3 | 2 | 169 | 77 |
| Major cities | 26 | 14 | 18 | 10 | 9 | 6 | 8 | 8 | 8 | 6 | . . | . . | 2 | 2 | . . | . . | 71 | 46 |
| Regional | 27 | 11 | 25 | 5 | 12 | 5 | 9 | 5 | 10 | 2 | 3 | 1 | . . | . . | 1 | 1 | 87 | 30 |
| Remote | 1 | 0 | 0 | 0 | 4 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | . . | . . | 2 | 1 | 11 | 1 |
| 51 Plastic & Reconstructive Surgery | 81 | 41 | 57 | 37 | 35 | 19 | 26 | 15 | 24 | 9 | 3 | 3 | 2 | 2 | 4 | 2 | 232 | 128 |
| Major cities | 36 | 28 | 26 | 20 | 12 | 11 | 9 | 7 | 10 | 8 | . . | . . | 2 | 2 | . . | . . | 95 | 76 |
| Regional | 45 | 13 | 31 | 17 | 22 | 8 | 10 | 7 | 13 | 1 | 3 | 3 | . . | . . | 1 | 1 | 125 | 50 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 1 | 1 | 0 | 0 | 0 | . . | . . | 3 | 1 | 12 | 2 |
| 52 Urology | 74 | 45 | 57 | 37 | 33 | 18 | 25 | 14 | 26 | 9 | 3 | 2 | 2 | 2 | 3 | 2 | 223 | 129 |
| Major cities | 35 | 29 | 25 | 21 | 12 | 9 | 11 | 8 | 9 | 8 | . . | . . | 2 | 2 | . . | . . | 94 | 77 |
| Regional | 39 | 16 | 32 | 16 | 20 | 9 | 10 | 6 | 16 | 1 | 3 | 2 | . . | . . | 1 | 1 | 121 | 51 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | . . | . . | 2 | 1 | 8 | 1 |

*(continued)*

**Table A4.1 (continued): Number of hospitals with more than 50 separations[a] and with more than 360 patient days in each SRG, by SRG and remoteness area, public hospitals, 2007–08**

| | NSW | | Vic | | Qld | | WA | | SA | | Tas | | ACT | | NT | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service related group | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days |
| 53 Vascular Surgery | 45 | 39 | 32 | 29 | 19 | 21 | 10 | 8 | 6 | 6 | 3 | 3 | 2 | 1 | 2 | 2 | 119 | 109 |
| Major cities | 29 | 26 | 20 | 18 | 9 | 10 | 5 | 4 | 6 | 6 | . . | . . | 2 | 1 | . . | . . | 71 | 65 |
| Regional | 16 | 13 | 12 | 11 | 10 | 10 | 4 | 3 | 0 | 0 | 3 | 3 | . . | . . | 1 | 1 | 46 | 41 |
| Remote | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | . . | . . | 1 | 1 | 2 | 3 |
| 54 Surgery, No Definitive Subspecialty | 127 | 86 | 67 | 52 | 89 | 40 | 42 | 27 | 43 | 17 | 3 | 3 | 2 | 2 | 5 | 4 | 378 | 231 |
| Major cities | 38 | 39 | 27 | 26 | 14 | 12 | 11 | 11 | 9 | 9 | . . | . . | 2 | 2 | . . | . . | 101 | 99 |
| Regional | 81 | 46 | 40 | 26 | 58 | 27 | 18 | 11 | 27 | 7 | 3 | 3 | . . | . . | 1 | 1 | 228 | 121 |
| Remote | 8 | 1 | 0 | 0 | 17 | 1 | 13 | 5 | 7 | 1 | 0 | 0 | . . | . . | 4 | 3 | 49 | 11 |
| 61 Transplantation | 3 | 5 | 4 | 6 | 1 | 2 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 17 |
| Major cities | 3 | 5 | 4 | 6 | 1 | 2 | 0 | 2 | 1 | 2 | . . | . . | 0 | 0 | . . | . . | 9 | 17 |
| 62 Extensive Burns | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 2 | 13 | 14 |
| Major cities | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | . . | . . | 0 | 0 | . . | . . | 11 | 11 |
| Regional | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | . . | . . | 1 | 1 | 2 | 2 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 1 | 0 | 1 |
| 63 Tracheostomy & ECMO | 20 | 33 | 14 | 18 | 11 | 16 | 3 | 5 | 4 | 6 | 2 | 3 | 2 | 2 | 1 | 2 | 57 | 85 |
| Major cities | 19 | 23 | 13 | 14 | 8 | 10 | 3 | 5 | 4 | 6 | . . | . . | 2 | 2 | . . | . . | 49 | 60 |
| Regional | 1 | 10 | 1 | 4 | 3 | 6 | 0 | 0 | 0 | 0 | 2 | 3 | . . | . . | 1 | 1 | 8 | 24 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 1 | 0 | 1 |
| 66 Social admissions | 0 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 9 |
| Major cities | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | . . | . . | 0 | 0 | . . | . . | 1 | 4 |
| Regional | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | . . | . . | 0 | 0 | 3 | 4 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | . . | . . | 0 | 0 | 0 | 1 |
| 71 Gynaecology | 76 | 49 | 62 | 35 | 35 | 19 | 28 | 14 | 24 | 15 | 3 | 3 | 2 | 2 | 4 | 2 | 234 | 139 |
| Major cities | 35 | 29 | 26 | 18 | 10 | 9 | 10 | 6 | 10 | 9 | . . | . . | 2 | 2 | . . | . . | 93 | 73 |
| Regional | 41 | 20 | 36 | 17 | 22 | 9 | 11 | 7 | 13 | 6 | 3 | 3 | . . | . . | 1 | 1 | 127 | 63 |
| Remote | 0 | 0 | 0 | 0 | 3 | 1 | 7 | 1 | 1 | 0 | 0 | 0 | . . | . . | 3 | 1 | 14 | 3 |
| 72 Obstetrics | 81 | 71 | 57 | 43 | 48 | 35 | 30 | 26 | 25 | 18 | 4 | 3 | 2 | 2 | 5 | 4 | 252 | 202 |
| Major cities | 29 | 25 | 18 | 15 | 9 | 8 | 8 | 7 | 6 | 5 | . . | . . | 2 | 2 | . . | . . | 72 | 62 |
| Regional | 50 | 46 | 39 | 28 | 33 | 24 | 15 | 12 | 17 | 12 | 4 | 3 | . . | . . | 1 | 1 | 159 | 126 |
| Remote | 2 | 0 | 0 | 0 | 6 | 3 | 7 | 7 | 2 | 1 | 0 | 0 | . . | . . | 4 | 3 | 21 | 14 |
| 73 Qualified Neonate | 41 | 38 | 28 | 25 | 22 | 20 | 13 | 9 | 7 | 6 | 3 | 2 | 2 | 2 | 3 | 2 | 119 | 104 |
| Major cities | 24 | 23 | 15 | 14 | 9 | 10 | 6 | 5 | 4 | 4 | . . | . . | 2 | 2 | . . | . . | 60 | 58 |
| Regional | 17 | 15 | 13 | 11 | 12 | 9 | 5 | 2 | 3 | 2 | 3 | 2 | . . | . . | 1 | 1 | 54 | 42 |
| Remote | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | . . | . . | 2 | 1 | 5 | 4 |
| 74 Unqualified Neonate | 75 | 0 | 49 | 0 | 38 | 0 | 28 | 0 | 22 | 0 | 2 | 0 | 2 | 0 | 4 | 0 | 220 | 0 |
| Major cities | 25 | 0 | 14 | 0 | 7 | 0 | 6 | 0 | 5 | 0 | . . | . . | 2 | 0 | . . | . . | 59 | 0 |
| Regional | 49 | 0 | 35 | 0 | 27 | 0 | 15 | 0 | 16 | 0 | 2 | 0 | . . | . . | 1 | 0 | 145 | 0 |
| Remote | 1 | 0 | 0 | 0 | 4 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | . . | . . | 3 | 0 | 16 | 0 |

*(continued)*

**Table A4.1 (continued): Number of hospitals with more than 50 separations[a] and with more than 360 patient days in each SRG, by SRG and remoteness area, public hospitals, 2007–08**

| Service related group | NSW | | Vic | | Qld | | WA | | SA | | Tas | | ACT | | NT | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days | 50 seps | 360 days |
| 75 Perinatology | 12 | 12 | 4 | 4 | 3 | 3 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 25 | 25 |
| Major cities | 10 | 10 | 4 | 4 | 2 | 2 | 1 | 1 | 2 | 2 | . . | . . | 1 | 1 | . . | . . | 20 | 20 |
| Regional | 2 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | . . | . . | 1 | 1 | 5 | 5 |
| 76 Definitive Paediatric Medicine | 55 | 33 | 28 | 16 | 32 | 14 | 18 | 7 | 10 | 5 | 3 | 2 | 2 | 1 | 5 | 3 | 153 | 81 |
| Major cities | 26 | 23 | 15 | 12 | 7 | 6 | 4 | 4 | 4 | 4 | . . | . . | 2 | 1 | . . | . . | 58 | 50 |
| Regional | 28 | 10 | 13 | 4 | 23 | 8 | 7 | 2 | 5 | 1 | 3 | 2 | . . | . . | 1 | 1 | 80 | 28 |
| Remote | 1 | 0 | 0 | 0 | 2 | 0 | 7 | 1 | 1 | 0 | 0 | 0 | . . | . . | 4 | 2 | 15 | 3 |
| 81 Drug & Alcohol | 74 | 48 | 36 | 22 | 37 | 16 | 22 | 7 | 17 | 9 | 4 | 4 | 2 | 2 | 3 | 2 | 195 | 110 |
| Major cities | 38 | 32 | 19 | 17 | 12 | 8 | 8 | 7 | 8 | 8 | . . | . . | 2 | 2 | . . | . . | 87 | 74 |
| Regional | 36 | 16 | 17 | 5 | 24 | 8 | 10 | 0 | 8 | 1 | 4 | 4 | . . | . . | 1 | 1 | 100 | 35 |
| Remote | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | . . | . . | 2 | 1 | 8 | 1 |
| 82 Acute Psychiatry | 85 | 59 | 48 | 42 | 32 | 20 | 27 | 21 | 26 | 17 | 5 | 7 | 2 | 2 | 2 | 2 | 227 | 170 |
| Major cities | 41 | 38 | 32 | 31 | 12 | 10 | 9 | 10 | 11 | 10 | . . | . . | 2 | 2 | . . | . . | 107 | 101 |
| Regional | 44 | 21 | 16 | 11 | 19 | 9 | 12 | 8 | 13 | 6 | 5 | 7 | . . | . . | 1 | 1 | 110 | 63 |
| Remote | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 3 | 2 | 1 | 0 | 0 | . . | . . | 1 | 1 | 10 | 6 |
| 84 Rehabilitation | 69 | 79 | 30 | 37 | 20 | 40 | 14 | 19 | 8 | 9 | 3 | 3 | 2 | 2 | 1 | 2 | 147 | 191 |
| Major cities | 38 | 40 | 18 | 19 | 10 | 12 | 10 | 12 | 6 | 7 | . . | . . | 2 | 2 | . . | . . | 84 | 92 |
| Regional | 31 | 39 | 12 | 18 | 10 | 27 | 4 | 7 | 2 | 2 | 3 | 3 | . . | . . | 1 | 1 | 63 | 97 |
| Remote | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 1 | 0 | 2 |
| 85 Non Acute Geriatric | 15 | 21 | 37 | 42 | 4 | 8 | 6 | 8 | 2 | 3 | 0 | 0 | 2 | 2 | 1 | 1 | 67 | 85 |
| Major cities | 12 | 14 | 26 | 26 | 3 | 5 | 6 | 7 | 2 | 3 | . . | . . | 2 | 2 | . . | . . | 51 | 57 |
| Regional | 3 | 7 | 11 | 16 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | . . | . . | 1 | 1 | 16 | 28 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 0 |
| 86 Palliative Care | 27 | 34 | 18 | 26 | 20 | 24 | 8 | 9 | 3 | 7 | 1 | 1 | 2 | 2 | 1 | 1 | 80 | 104 |
| Major cities | 18 | 18 | 12 | 12 | 9 | 10 | 5 | 5 | 3 | 3 | . . | . . | 2 | 2 | . . | . . | 49 | 50 |
| Regional | 9 | 15 | 6 | 14 | 11 | 14 | 3 | 4 | 0 | 4 | 1 | 1 | . . | . . | 1 | 1 | 31 | 53 |
| Remote | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 1 |
| 87 Maintenance | 30 | 87 | 2 | 30 | 28 | 71 | 9 | 39 | 6 | 48 | 3 | 8 | 2 | 2 | 2 | 3 | 82 | 288 |
| Major cities | 16 | 24 | 2 | 3 | 12 | 12 | 6 | 10 | 6 | 8 | . . | . . | 2 | 2 | . . | . . | 44 | 59 |
| Regional | 14 | 58 | 0 | 26 | 15 | 48 | 3 | 20 | 0 | 27 | 3 | 8 | . . | . . | 1 | 1 | 36 | 188 |
| Remote | 0 | 5 | 0 | 1 | 1 | 11 | 0 | 9 | 0 | 13 | 0 | 0 | . . | . . | 1 | 2 | 2 | 41 |
| 88 Acute Definitive Geriatrics | 56 | 63 | 34 | 36 | 23 | 23 | 10 | 12 | 9 | 12 | 4 | 4 | 2 | 2 | 1 | 1 | 139 | 153 |
| Major cities | 33 | 36 | 21 | 20 | 10 | 10 | 5 | 6 | 9 | 10 | . . | . . | 2 | 2 | . . | . . | 80 | 84 |
| Regional | 23 | 27 | 13 | 16 | 13 | 13 | 5 | 5 | 0 | 2 | 4 | 4 | . . | . . | 1 | 1 | 59 | 68 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | . . | . . | 0 | 0 | 0 | 1 |
| 99 Unallocated | 8 | 16 | 12 | 14 | 3 | 5 | 4 | 4 | 3 | 4 | 1 | 1 | 0 | 0 | 1 | 2 | 32 | 46 |
| Major cities | 7 | 13 | 12 | 13 | 3 | 4 | 4 | 4 | 3 | 4 | . . | . . | 0 | 0 | . . | . . | 29 | 38 |
| Regional | 1 | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | . . | . . | 1 | 1 | 3 | 7 |
| Remote | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | . . | . . | 0 | 1 | 0 | 1 |

(a) Records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.

*Note:* Rows for regions with no apparent units are not shown. SRG definitions based on AR-DRGs version 5.0 have been applied to version 5.1 AR-DRGs.

*Abbreviations:* ECMO—extracorporeal membrane oxygenation; GI/GIT—gastrointestinal.

# Appendix 5: Potentially preventable hospitalisations

The selected potentially preventable hospitalisations (PPHs) are those conditions where hospitalisation is thought to be avoidable if timely and adequate non-hospital care had been provided. Separation rates for PPHs therefore have potential as indicators of the quality or effectiveness of non-hospital care. A high rate of potentially preventable hospitalisation may indicate an increased prevalence of the conditions in the community or poorer functioning of the non-hospital care system. On the other hand, it may indicate an appropriate use of the hospital system to respond to greater need. It is important to note that the list of PPHs is not comprehensive—there are other hospital admissions that may be preventable. The ICD-10-AM code specifications and the categories included for PPHs may therefore be subject to change in future reports.

The three broad categories of PPHs that have been used in this report include *Vaccine-preventable*, *Acute* and *Chronic* (see *Chapter 4* for descriptions of these categories). PPH categories have been sourced from *The Victorian ambulatory care sensitive conditions study* (DHS Victoria 2002).

A full description of all conditions presented in these tables, including ICD-10-AM codes, can be found in Table A1.9 accompanying this report on the Internet.

Tables A5.1 to A5.3 present the number of separations, the proportion of residents treated in hospitals outside their state of residence and the age-standardised separation rates for each PPH condition for the state or territory (Table A5.1), or remoteness area of usual residence of the patient (Table A5.2) or the quintile of socioeconomic advantage/ disadvantage (Table A5.3; see *Appendix 1* for information on geographical data). These tables also include the standardised separation rate ratio (SRR) against the national total as well as the 95% confidence interval of the SRR. Statistics are presented for the total PPH rate, the rates for each of the three broad PPH categories as well as rates for individual conditions.

There were almost 731,000 selected PPHs in Australia in 2007–08 (Table A5.1), 9.3% of all separations, which translates to a rate of 33.1 per 1,000 population. The rates ranged from 22.3 per 1,000 population in the Australian Capital Territory to 50.1 per 1,000 population in Western Australia. The separation rate for *Vaccine-preventable* PPHs in the Northern Territory was 3.3 times the national rate, and the separation rate for Tasmania was 0.6 times the national rate.

Table A5.2 highlights that separation rates were higher for the more remote areas for most PPHs. For example, the rate for *Congestive cardiac failure* in *Major cities* and *Inner regional* was 1.9 per 1,000 separations, 2.5 for *Outer regional*, 3.0 for *Remote* and 3.8 for *Very remote* areas.

Table A5.3 presents these data by quintile of socioeconomic advantage/disadvantage using the SEIFA 2006 Index of Socio-Economic Advantage/Disadvantage (ABS 2008a) of the statistical local area of the patient's usual residence (see *Appendix 1*). The *Most disadvantaged* quintile represents the areas containing the 20% of the population with the least advantage/most disadvantage and the *Most advantaged* quintile represents the areas containing the 20% of the population with the most advantage /least disadvantage.

Overall, total PPHs had higher SRRs in the *Most disadvantaged* quintile with a rate of 1.2 compared to 0.7 in the *Most advantaged* quintile.

The PPH categories with highest variation between the *Most disadvantaged* and *Most Advantaged quintiles* were *Angina, Chronic obstructive pulmonary disease, Diabetes complications* and *Hypertension.* In the *Most disadvantaged* quintile, these categories had SRRs of 1.5, 1.4, 1.3 and 1.5, respectively. In comparison, the *Most advantaged* quintile had lower SRRs of 0.5, 0.6, 0.6 and 0.7, respectively.

There was little difference in separation rates for *Other vaccine-preventable conditions*, *Iron deficiency anaemia*, *Dental conditions* and *Appendicitis with generalised peritonitis* between the *Most advantaged* and *Most disadvantaged* quintiles.

**Table A5.1: Separation statistics[a] for selected potentially preventable hospitalisations[b], by state or territory of usual residence, all hospitals, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total[c] |
|---|---|---|---|---|---|---|---|---|---|
| **Vaccine-preventable conditions** | | | | | | | | | |
| **Influenza and pneumonia** | | | | | | | | | |
| Separations[d] | 3,941 | 2,444 | 2,802 | 1,080 | 1,082 | 201 | 214 | 329 | 12,094 |
| Separations not within state of residence (%) | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 5 | |
| Separation rate[e] | 0.54 | 0.45 | 0.66 | 0.51 | 0.65 | 0.38 | 0.69 | 1.74 | 0.56 |
| Standardised separation rate ratio (SRR) | 0.98 | 0.80 | 1.18 | 0.92 | 1.18 | 0.68 | 1.24 | 3.13 | |
| 95% confidence interval of SRR | 0.95–1.01 | 0.77–0.83 | 1.14–1.22 | 0.86–0.97 | 1.11–1.25 | 0.58–0.77 | 1.08–1.41 | 2.80–3.47 | |
| **Other vaccine-preventable conditions** | | | | | | | | | |
| Separations[d] | 884 | 1,284 | 447 | 286 | 174 | 19 | 25 | 125 | 3,245 |
| Separations not within state of residence (%) | 2 | 1 | 1 | 0 | 2 | 27 | 14 | 2 | |
| Separation rate[e] | 0.13 | 0.24 | 0.10 | 0.13 | 0.10 | 0.04 | 0.08 | 0.58 | 0.15 |
| Standardised separation rate ratio (SRR) | 0.84 | 1.58 | 0.69 | 0.89 | 0.68 | 0.26 | 0.51 | 3.84 | |
| 95% confidence interval of SRR | 0.79–0.90 | 1.49–1.66 | 0.63–0.76 | 0.79–0.99 | 0.58–0.78 | 0.14–0.38 | 0.31–0.70 | 3.16–4.51 | |
| **Total vaccine-preventable conditions** | | | | | | | | | |
| Separations[d] | 4,822 | 3,722 | 3,247 | 1,366 | 1,255 | 220 | 239 | 452 | 15,325 |
| Proportion of total separations[d](%) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | n.p. | n.p. | n.p. | 0.2 |
| Separations not within state of residence (%) | 2 | 1 | 1 | 0 | 2 | 27 | 14 | 2 | |
| Separation rate[e] | 0.67 | 0.68 | 0.76 | 0.64 | 0.76 | 0.42 | 0.77 | 2.31 | 0.71 |
| Standardised separation rate ratio (SRR) | 0.95 | 0.97 | 1.08 | 0.91 | 1.07 | 0.59 | 1.09 | 3.27 | |
| 95% confidence interval of SRR | 0.92–0.98 | 0.94–1.00 | 1.04–1.11 | 0.86–0.96 | 1.01–1.13 | 0.51–0.67 | 0.95–1.22 | 2.97–3.58 | |
| **Acute conditions** | | | | | | | | | |
| **Appendicitis with generalised peritonitis** | | | | | | | | | |
| Separations[d] | 1,105 | 1,052 | 680 | 483 | 289 | 65 | 65 | 41 | 3,780 |
| Separations not within state of residence (%) | 4 | 1 | 2 | 0 | 0 | 2 | 5 | 8 | |
| Separation rate[e] | 0.16 | 0.20 | 0.16 | 0.23 | 0.18 | 0.13 | 0.19 | 0.20 | 0.18 |
| Standardised separation rate ratio (SRR) | 0.90 | 1.13 | 0.90 | 1.27 | 1.02 | 0.73 | 1.06 | 1.13 | |
| 95% confidence interval of SRR | 0.84–0.95 | 1.06–1.20 | 0.83–0.96 | 1.15–1.38 | 0.90–1.13 | 0.56–0.91 | 0.81–1.32 | 0.79–1.48 | |
| **Cellulitis** | | | | | | | | | |
| Separations[d] | 12,149 | 9,199 | 8,109 | 3,275 | 2,634 | 723 | 431 | 707 | 37,232 |
| Separations not within state of residence (%) | 3 | 2 | 2 | 1 | 2 | 4 | 6 | 3 | |
| Separation rate[e] | 1.66 | 1.66 | 1.90 | 1.54 | 1.50 | 1.37 | 1.34 | 3.65 | 1.69 |
| Standardised separation rate ratio (SRR) | 0.98 | 0.98 | 1.12 | 0.91 | 0.89 | 0.81 | 0.79 | 2.16 | |
| 95% confidence interval of SRR | 0.96–1.00 | 0.96–1.00 | 1.10–1.15 | 0.88–0.94 | 0.86–0.92 | 0.75–0.87 | 0.72–0.87 | 2.00–2.32 | |

*(continued)*

**Table A5.1 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by state or territory of usual residence, all hospitals, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total[c] |
|---|---|---|---|---|---|---|---|---|---|
| **Convulsions and epilepsy** | | | | | | | | | |
| Separations[d] | 11,293 | 7,771 | 6,638 | 2,802 | 2,505 | 845 | 452 | 659 | 32,974 |
| Separations not within state of residence (%) | 3 | 2 | 3 | 3 | 2 | 6 | 14 | 3 | |
| Separation rate[e] | 1.64 | 1.48 | 1.57 | 1.32 | 1.58 | 1.72 | 1.38 | 3.08 | 1.56 |
| Standardised separation rate ratio (SRR) | 1.05 | 0.95 | 1.01 | 0.85 | 1.01 | 1.10 | 0.88 | 1.97 | |
| 95% confidence interval of SRR | 1.03–1.07 | 0.93–0.97 | 0.98–1.03 | 0.82–0.88 | 0.98–1.05 | 1.03–1.18 | 0.80–0.96 | 1.82–2.12 | |
| **Dehydration and gastroenteritis** | | | | | | | | | |
| Separations[d] | 15,350 | 17,280 | 10,473 | 4,409 | 5,901 | 1,191 | 538 | 301 | 55,469 |
| Separations not within state of residence (%) | 3 | 1 | 2 | 1 | 1 | 2 | 8 | 11 | |
| Separation rate[e] | 2.09 | 3.14 | 2.46 | 2.06 | 3.50 | 2.21 | 1.66 | 1.98 | 2.52 |
| Standardised separation rate ratio (SRR) | 0.83 | 1.25 | 0.97 | 0.82 | 1.39 | 0.88 | 0.66 | 0.79 | |
| 95% confidence interval of SRR | 0.82–0.84 | 1.23–1.27 | 0.96–0.99 | 0.79–0.84 | 1.35–1.42 | 0.83–0.93 | 0.60–0.71 | 0.70–0.88 | |
| **Dental conditions** | | | | | | | | | |
| Separations[d] | 16,274 | 15,868 | 11,488 | 7,160 | 5,047 | 929 | 635 | 531 | 57,955 |
| Separations not within state of residence (%) | 3 | 1 | 1 | 0 | 1 | 3 | 2 | 5 | |
| Separation rate[e] | 2.39 | 3.06 | 2.72 | 3.38 | 3.23 | 1.91 | 1.96 | 2.21 | 2.77 |
| Standardised separation rate ratio (SRR) | 0.86 | 1.10 | 0.98 | 1.22 | 1.17 | 0.69 | 0.71 | 0.80 | |
| 95% confidence interval of SRR | 0.85–0.88 | 1.09–1.12 | 0.97–1.00 | 1.19–1.25 | 1.13–1.20 | 0.65–0.74 | 0.65–0.76 | 0.73–0.87 | |
| **Ear, nose and throat infections** | | | | | | | | | |
| Separations[d] | 11,350 | 8,333 | 7,634 | 3,509 | 3,732 | 664 | 407 | 518 | 36,153 |
| Separations not within state of residence (%) | 3 | 2 | 2 | 1 | 1 | 2 | 8 | 4 | |
| Separation rate[e] | 1.67 | 1.62 | 1.80 | 1.67 | 2.54 | 1.39 | 1.18 | 2.10 | 1.74 |
| Standardised separation rate ratio (SRR) | 0.96 | 0.93 | 1.04 | 0.96 | 1.46 | 0.80 | 0.68 | 1.21 | |
| 95% confidence interval of SRR | 0.94–0.98 | 0.91–0.95 | 1.01–1.06 | 0.93–0.99 | 1.41–1.51 | 0.74–0.86 | 0.61–0.74 | 1.10–1.31 | |
| **Gangrene** | | | | | | | | | |
| Separations[d] | 1,081 | 1,432 | 926 | 531 | 317 | 116 | 33 | 129 | 4,566 |
| Separations not within state of residence (%) | 7 | 1 | 2 | 0 | 2 | 3 | 3 | 3 | |
| Separation rate[e] | 0.14 | 0.25 | 0.22 | 0.25 | 0.17 | 0.21 | 0.11 | 0.73 | 0.20 |
| Standardised separation rate ratio (SRR) | 0.71 | 1.24 | 1.06 | 1.20 | 0.84 | 1.01 | 0.53 | 3.59 | |
| 95% confidence interval of SRR | 0.67–0.75 | 1.17–1.30 | 0.99–1.13 | 1.10–1.30 | 0.75–0.93 | 0.83–1.19 | 0.35–0.71 | 2.97–4.21 | |

*(continued)*

**Table A5.1 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by state or territory of usual residence, all hospitals, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total[c] |
|---|---|---|---|---|---|---|---|---|---|
| **Pelvic inflammatory disease** | | | | | | | | | |
| Separations[d] | 1,443 | 1,222 | 1,093 | 473 | 374 | 87 | 90 | 111 | 4,897 |
| Separations not within state of residence (%) | 5 | 0 | 2 | 1 | 2 | 4 | 10 | 5 | |
| Separation rate[e] | 0.21 | 0.23 | 0.26 | 0.22 | 0.24 | 0.19 | 0.26 | 0.47 | 0.23 |
| Standardised separation rate ratio (SRR) | 0.91 | 1.00 | 1.12 | 0.95 | 1.02 | 0.81 | 1.09 | 1.99 | |
| 95% confidence interval of SRR | 0.86–0.95 | 0.94–1.05 | 1.05–1.18 | 0.87–1.04 | 0.92–1.12 | 0.64–0.98 | 0.86–1.31 | 1.62–2.36 | |
| **Perforated/bleeding ulcer** | | | | | | | | | |
| Separations[d] | 1,679 | 1,368 | 962 | 566 | 474 | 105 | 70 | 24 | 5,248 |
| Separations not within state of residence (%) | 4 | 1 | 2 | 1 | 1 | 0 | 6 | 4 | |
| Separation rate[e] | 0.22 | 0.24 | 0.22 | 0.27 | 0.25 | 0.18 | 0.23 | 0.20 | 0.23 |
| Standardised separation rate ratio (SRR) | 0.95 | 1.04 | 0.97 | 1.15 | 1.08 | 0.78 | 1.00 | 0.87 | |
| 95% confidence interval of SRR | 0.91–1.00 | 0.98–1.09 | 0.91–1.03 | 1.05–1.24 | 0.98–1.18 | 0.63–0.93 | 0.77–1.24 | 0.52–1.21 | |
| **Pyelonephritis** | | | | | | | | | |
| Separations[d] | 16,018 | 13,454 | 9,873 | 4,533 | 3,750 | 912 | 685 | 546 | 49,782 |
| Separations not within state of residence (%) | 2 | 1 | 2 | 1 | 1 | 2 | 4 | 4 | |
| Separation rate[e] | 2.13 | 2.38 | 2.32 | 2.14 | 2.05 | 1.69 | 2.22 | 3.34 | 2.22 |
| Standardised separation rate ratio (SRR) | 0.96 | 1.07 | 1.04 | 0.96 | 0.92 | 0.76 | 1.00 | 1.50 | |
| 95% confidence interval of SRR | 0.94–0.97 | 1.05–1.09 | 1.02–1.06 | 0.93–0.99 | 0.89–0.95 | 0.71–0.81 | 0.92–1.07 | 1.38–1.63 | |
| **Total acute conditions** | | | | | | | | | |
| Separations[d] | 87,701 | 76,937 | 57,811 | 27,724 | 25,006 | 5,635 | 3,405 | 3,561 | 287,865 |
| Proportion of total separations[d](%) | 3.7 | 3.6 | 3.6 | 3.5 | 4.1 | n.p. | n.p. | n.p. | 3.7 |
| Separations not within state of residence (%) | 3 | 1 | 2 | 1 | 1 | 3 | 6 | 4 | |
| Separation rate[e] | 12.30 | 14.26 | 13.61 | 13.06 | 15.24 | 11.00 | 10.51 | 17.92 | 13.34 |
| Standardised separation rate ratio (SRR) | 0.92 | 1.07 | 1.02 | 0.98 | 1.14 | 0.82 | 0.79 | 1.34 | |
| 95% confidence interval of SRR | 0.92–0.93 | 1.06–1.08 | 1.01–1.03 | 0.97–0.99 | 1.13–1.16 | 0.80–0.85 | 0.76–0.81 | 1.30–1.39 | |
| **Chronic conditions** | | | | | | | | | |
| **Angina** | | | | | | | | | |
| Separations[d] | 10,743 | 9,800 | 10,416 | 2,925 | 3,025 | 842 | 338 | 329 | 38,422 |
| Separations not within state of residence (%) | 3 | 2 | 2 | 1 | 2 | 2 | 8 | 4 | |
| Separation rate[e] | 1.40 | 1.71 | 2.41 | 1.37 | 1.56 | 1.42 | 1.13 | 2.36 | 1.69 |
| Standardised separation rate ratio (SRR) | 0.83 | 1.01 | 1.43 | 0.81 | 0.92 | 0.84 | 0.67 | 1.40 | |
| 95% confidence interval of SRR | 0.82–0.85 | 0.99–1.03 | 1.40–1.46 | 0.78–0.84 | 0.89–0.96 | 0.79–0.90 | 0.60–0.74 | 1.25–1.55 | |

*(continued)*

**Table A5.1 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by state or territory of usual residence, all hospitals, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total[c] |
|---|---|---|---|---|---|---|---|---|---|
| **Asthma** | | | | | | | | | |
| Separations[d] | 12,552 | 9,561 | 7,015 | 3,149 | 3,841 | 718 | 320 | 326 | 37,492 |
| Separations not within state of residence (%) | 2 | 2 | 3 | 1 | 2 | 2 | 7 | 5 | |
| Separation rate[e] | 1.85 | 1.87 | 1.66 | 1.50 | 2.57 | 1.50 | 0.97 | 1.44 | 1.80 |
| Standardised separation rate ratio (SRR) | 1.03 | 1.03 | 0.92 | 0.83 | 1.42 | 0.83 | 0.54 | 0.80 | |
| 95% confidence interval of SRR | 1.01–1.05 | 1.01–1.06 | 0.90–0.94 | 0.80–0.86 | 1.38–1.47 | 0.77–0.89 | 0.48–0.60 | 0.71–0.89 | |
| **Chronic obstructive pulmonary disease** | | | | | | | | | |
| Separations[d] | 20,082 | 14,682 | 12,544 | 4,958 | 5,949 | 1,577 | 438 | 902 | 61,140 |
| Separations not within state of residence (%) | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 2 | |
| Separation rate[e] | 2.61 | 2.55 | 2.94 | 2.36 | 3.06 | 2.67 | 1.54 | 6.32 | 2.69 |
| Standardised separation rate ratio (SRR) | 0.97 | 0.95 | 1.09 | 0.88 | 1.14 | 0.99 | 0.57 | 2.35 | |
| 95% confidence interval of SRR | 0.96–0.98 | 0.93–0.96 | 1.07–1.11 | 0.85–0.90 | 1.11–1.17 | 0.94–1.04 | 0.52–0.62 | 2.20–2.50 | |
| **Congestive cardiac failure** | | | | | | | | | |
| Separations[d] | 14,956 | 12,823 | 8,407 | 3,564 | 3,965 | 1,039 | 491 | 317 | 45,572 |
| Separations not within state of residence (%) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Separation rate[e] | 1.87 | 2.15 | 1.97 | 1.70 | 1.90 | 1.70 | 1.76 | 2.30 | 1.95 |
| Standardised separation rate ratio (SRR) | 0.96 | 1.10 | 1.01 | 0.87 | 0.97 | 0.87 | 0.90 | 1.18 | |
| 95% confidence interval of SRR | 0.94–0.97 | 1.08–1.12 | 0.99–1.03 | 0.84–0.90 | 0.94–1.00 | 0.82–0.93 | 0.82–0.98 | 1.05–1.31 | |
| **Diabetes complications** | | | | | | | | | |
| Separations[d] | 52,713 | 52,738 | 43,708 | 62,689 | 14,306 | 7,218 | 1,649 | 2,007 | 237,119 |
| Separations not within state of residence (%) | 7 | 9 | 10 | 29 | 8 | 13 | 5 | 13 | |
| Separation rate[e] | 6.99 | 9.32 | 10.29 | 29.03 | 7.59 | 12.63 | 5.48 | 13.23 | 10.58 |
| Standardised separation rate ratio (SRR) | 0.66 | 0.88 | 0.97 | 2.74 | 0.72 | 1.19 | 0.52 | 1.25 | |
| 95% confidence interval of SRR | 0.66–0.67 | 0.87–0.89 | 0.96–0.98 | 2.72–2.76 | 0.70–0.73 | 1.17–1.22 | 0.49–0.54 | 1.20–1.30 | |
| **Hypertension** | | | | | | | | | |
| Separations[d] | 2,241 | 1,393 | 1,482 | 319 | 538 | 150 | 41 | 17 | 6,181 |
| Separations not within state of residence (%) | 4 | 2 | 2 | 2 | 1 | 2 | 3 | 31 | |
| Separation rate[e] | 0.30 | 0.24 | 0.34 | 0.15 | 0.28 | 0.27 | 0.13 | 0.10 | 0.27 |
| Standardised separation rate ratio (SRR) | 1.08 | 0.89 | 1.26 | 0.55 | 1.04 | 0.98 | 0.48 | 0.35 | |
| 95% confidence interval of SRR | 1.04–1.13 | 0.85–0.94 | 1.20–1.32 | 0.49–0.61 | 0.95–1.13 | 0.82–1.14 | 0.33–0.62 | 0.18–0.51 | |

*(continued)*

**Table A5.1 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by state or territory of usual residence, all hospitals, 2007–08**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total[c] |
|---|---|---|---|---|---|---|---|---|---|
| **Iron deficiency anaemia** | | | | | | | | | |
| Separations[d] | 7,413 | 8,874 | 4,494 | 2,893 | 1,860 | 769 | 222 | 116 | 26,662 |
| Separations not within state of residence (%) | 2 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | |
| Separation rate[e] | 0.99 | 1.59 | 1.06 | 1.37 | 1.01 | 1.38 | 0.71 | 0.71 | 1.20 |
| Standardised separation rate ratio (SRR) | 0.83 | 1.33 | 0.88 | 1.14 | 0.84 | 1.15 | 0.59 | 0.59 | |
| 95% confidence interval of SRR | 0.81–0.85 | 1.30–1.36 | 0.86–0.91 | 1.10–1.18 | 0.80–0.88 | 1.07–1.23 | 0.52–0.67 | 0.49–0.70 | |
| **Nutritional deficiencies** | | | | | | | | | |
| Separations[d] | 32 | 23 | 30 | 35 | 5 | 4 | 0 | 14 | 143 |
| Separations not within state of residence (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Separation rate[e] | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.05 | 0.01 |
| Standardised separation rate ratio (SRR) | 0.64 | 0.64 | 1.07 | 2.49 | 0.47 | 1.12 | 0.00 | 7.85 | |
| 95% confidence interval of SRR | 0.42–0.87 | 0.38–0.90 | 0.69–1.46 | 1.67–3.32 | 0.06–0.88 | n.a. | n.a. | 3.74–11.97 | |
| **Rheumatic heart disease[f]** | | | | | | | | | |
| Separations[d] | 710 | 526 | 734 | 229 | 189 | 35 | 43 | 179 | 2,648 |
| Separations not within state of residence (%) | 10 | 0 | 0 | 0 | 9 | 30 | 0 | 28 | |
| Separation rate[e] | 0.10 | 0.09 | 0.17 | 0.11 | 0.10 | 0.06 | 0.15 | 0.79 | 0.12 |
| Standardised separation rate ratio (SRR) | 0.80 | 0.79 | 1.44 | 0.90 | 0.87 | 0.50 | 1.27 | 6.62 | |
| 95% confidence interval of SRR | 0.74–0.86 | 0.72–0.85 | 1.33–1.54 | 0.78–1.02 | 0.75–1.00 | 0.34–0.67 | 0.89–1.64 | 5.65–7.59 | |
| **Total chronic conditions** | | | | | | | | | |
| Separations[d] | 114,068 | 103,576 | 83,904 | 78,664 | 31,439 | 11,935 | 3,319 | 3,973 | 431,023 |
| Proportion of total separations[d](%) | 4.8 | 4.9 | 5.3 | 10.0 | 5.2 | n.p. | n.p. | n.p. | 5.5 |
| Separations not within state of residence (%) | 4 | 1 | 1 | 0 | 1 | 1 | 10 | 9 | |
| Separation rate[e] | 15.16 | 18.35 | 19.69 | 36.61 | 16.93 | 20.93 | 11.09 | 25.53 | 19.24 |
| Standardised separation rate ratio (SRR) | 0.79 | 0.95 | 1.02 | 1.90 | 0.88 | 1.09 | 0.58 | 1.33 | |
| 95% confidence interval of SRR | 0.78–0.79 | 0.95–0.96 | 1.02–1.03 | 1.89–1.92 | 0.87–0.89 | 1.07–1.11 | 0.56–0.60 | 1.29–1.37 | |
| **Total selected potentially preventable hospitalisations** | | | | | | | | | |
| Separations[d] | 205,651 | 183,496 | 144,254 | 107,346 | 57,377 | 17,697 | 6,938 | 7,851 | 730,842 |
| Proportion of total separations[d](%) | 8.7 | 8.6 | 9.1 | 13.7 | 9.4 | n.p. | n.p. | n.p. | 9.3 |
| Separations not within state of residence (%) | 3 | 1 | 2 | 0 | 1 | 2 | 8 | 7 | |
| Separation rate[e] | 28.00 | 33.16 | 33.90 | 50.12 | 32.75 | 32.18 | 22.28 | 44.98 | 33.13 |
| Standardised separation rate ratio (SRR) | 0.85 | 1.00 | 1.02 | 1.51 | 0.99 | 0.97 | 0.67 | 1.36 | |
| 95% confidence interval of SRR | 0.84–0.85 | 1.00–1.01 | 1.02–1.03 | 1.50–1.52 | 0.98–1.00 | 0.96–0.99 | 0.66–0.69 | 1.33–1.39 | |

(a) Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.
(b) These conditions are defined using ICD-10-AM codes in *Appendix 1* .
(c) Includes other territories and excludes overseas residents and unknown state of residence.
(d) Excludes multiple diagnoses for the same separation within the same group.
(e) Rate per 1,000 population was directly age-standardised as detailed in *Appendix 1.*
(f) *Rheumatic heart disease* includes acute rheumatic fever as well as the chronic disease.

**Table A5.2: Separation statistics[a] for selected potentially preventable hospitalisations[b], by remoteness area of usual residence, all hospitals, 2007–08**

| | Major cities | Inner regional | Outer regional | Remote | Very remote | Total[c] |
|---|---|---|---|---|---|---|
| **Vaccine-preventable conditions** | | | | | | |
| **Influenza and pneumonia** | | | | | | |
| Separations[d] | 7,135 | 2,765 | 1,497 | 387 | 295 | 12,094 |
| Separation rate[e] | 0.49 | 0.62 | 0.73 | 1.25 | 1.86 | 0.56 |
| Standardised separation rate ratio (SRR) | 0.87 | 1.11 | 1.29 | 2.22 | 3.31 | |
| 95% confidence interval of SRR | 0.85–0.89 | 1.07–1.15 | 1.23–1.36 | 2.00–2.45 | 2.93–3.69 | |
| **Other vaccine-preventable conditions** | | | | | | |
| Separations[d] | 2,596 | 301 | 193 | 59 | 90 | 3,245 |
| Separation rate[e] | 0.18 | 0.07 | 0.10 | 0.18 | 0.52 | 0.15 |
| Standardised separation rate ratio (SRR) | 1.17 | 0.48 | 0.65 | 1.18 | 3.41 | |
| 95% confidence interval of SRR | 1.13–1.22 | 0.42–0.53 | 0.56–0.75 | 0.88–1.48 | 2.71–4.12 | |
| **Total vaccine-preventable** | | | | | | |
| Separations[d] | 9,721 | 3,065 | 1,689 | 446 | 383 | 15,325 |
| Proportion of total separations(%) | 0.2 | 0.2 | 0.2 | 0.3 | 0.5 | 0.2 |
| Separation rate[e] | 0.67 | 0.69 | 0.83 | 1.43 | 2.36 | 0.71 |
| Standardised separation rate ratio (SRR) | 0.94 | 0.98 | 1.16 | 2.01 | 3.32 | |
| 95% confidence interval of SRR | 0.92–0.95 | 0.94–1.01 | 1.10–1.21 | 1.82–2.19 | 2.99–3.65 | |
| **Acute conditions** | | | | | | |
| **Appendicitis with generalised peritonitis** | | | | | | |
| Separations[d] | 2,512 | 736 | 404 | 69 | 56 | 3,780 |
| Separation rate[e] | 0.18 | 0.18 | 0.20 | 0.22 | 0.33 | 0.18 |
| Standardised separation rate ratio (SRR) | 0.98 | 0.98 | 1.13 | 1.24 | 1.85 | |
| 95% confidence interval of SRR | 0.94–1.01 | 0.91–1.05 | 1.02–1.24 | 0.95–1.54 | 1.36–2.33 | |
| **Cellulitis** | | | | | | |
| Separations[d] | 22,224 | 8,237 | 4,672 | 1,152 | 884 | 37,232 |
| Separation rate[e] | 1.50 | 1.85 | 2.27 | 3.79 | 5.80 | 1.71 |
| Standardised separation rate ratio (SRR) | 0.88 | 1.09 | 1.33 | 2.22 | 3.39 | |
| 95% confidence interval of SRR | 0.87–0.89 | 1.06–1.11 | 1.29–1.37 | 2.09–2.34 | 3.17–3.62 | |
| **Convulsions and epilepsy** | | | | | | |
| Separations[d] | 20,283 | 7,087 | 3,702 | 1,145 | 658 | 32,974 |
| Separation rate[e] | 1.41 | 1.75 | 1.88 | 3.58 | 4.01 | 1.57 |
| Standardised separation rate ratio (SRR) | 0.90 | 1.11 | 1.19 | 2.27 | 2.55 | |
| 95% confidence interval of SRR | 0.89–0.91 | 1.09–1.14 | 1.16–1.23 | 2.14–2.40 | 2.35–2.74 | |

*(continued)*

**Table A5.2 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by remoteness area of usual residence, all hospitals, 2007–08**

| | Major cities | Inner regional | Outer regional | Remote | Very remote | Total[c] |
|---|---|---|---|---|---|---|
| **Dehydration and gastroenteritis** | | | | | | |
| Separations[d] | 34,682 | 12,224 | 6,783 | 1,093 | 630 | 55,469 |
| Separation rate[e] | 2.33 | 2.78 | 3.35 | 3.77 | 4.72 | 2.55 |
| Standardised separation rate ratio (SRR) | 0.92 | 1.09 | 1.31 | 1.48 | 1.85 | |
| 95% confidence interval of SRR | 0.91–0.93 | 1.07–1.11 | 1.28–1.35 | 1.39–1.57 | 1.71–2.00 | |
| **Dental conditions** | | | | | | |
| Separations[d] | 37,121 | 12,803 | 6,134 | 1,163 | 711 | 57,955 |
| Separation rate[e] | 2.63 | 3.13 | 3.09 | 3.49 | 3.67 | 2.79 |
| Standardised separation rate ratio (SRR) | 0.94 | 1.12 | 1.11 | 1.25 | 1.32 | |
| 95% confidence interval of SRR | 0.93–0.95 | 1.10–1.14 | 1.08–1.14 | 1.18–1.32 | 1.22–1.41 | |
| **Ear, nose and throat infections** | | | | | | |
| Separations[d] | 21,695 | 7,881 | 4,665 | 1,191 | 673 | 36,153 |
| Separation rate[e] | 1.54 | 1.98 | 2.40 | 3.55 | 3.36 | 1.76 |
| Standardised separation rate ratio (SRR) | 0.88 | 1.13 | 1.37 | 2.02 | 1.91 | |
| 95% confidence interval of SRR | 0.86–0.89 | 1.10–1.15 | 1.33–1.41 | 1.91–2.14 | 1.77–2.06 | |
| **Gangrene** | | | | | | |
| Separations[d] | 2,751 | 950 | 492 | 197 | 170 | 4,566 |
| Separation rate[e] | 0.18 | 0.20 | 0.23 | 0.65 | 1.22 | 0.21 |
| Standardised separation rate ratio (SRR) | 0.89 | 0.99 | 1.12 | 3.15 | 5.91 | |
| 95% confidence interval of SRR | 0.86–0.92 | 0.93–1.05 | 1.02–1.22 | 2.71–3.59 | 5.02–6.80 | |
| **Pelvic inflammatory disease** | | | | | | |
| Separations[d] | 3,134 | 964 | 515 | 158 | 122 | 4,897 |
| Separation rate[e] | 0.21 | 0.26 | 0.28 | 0.51 | 0.71 | 0.24 |
| Standardised separation rate ratio (SRR) | 0.91 | 1.09 | 1.19 | 2.18 | 3.00 | |
| 95% confidence interval of SRR | 0.88–0.94 | 1.02–1.16 | 1.09–1.29 | 1.84–2.52 | 2.47–3.53 | |
| **Perforated/bleeding ulcer** | | | | | | |
| Separations[d] | 3,509 | 1,083 | 552 | 66 | 34 | 5,248 |
| Separation rate[e] | 0.23 | 0.22 | 0.26 | 0.24 | 0.31 | 0.23 |
| Standardised separation rate ratio (SRR) | 1.00 | 0.96 | 1.09 | 1.01 | 1.30 | |
| 95% confidence interval of SRR | 0.96–1.03 | 0.90–1.01 | 1.00–1.19 | 0.77–1.25 | 0.86–1.74 | |

*(continued)*

**Table A5.2 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by remoteness area of usual residence, all hospitals, 2007–08**

| | Major cities | Inner regional | Outer regional | Remote | Very remote | Total[c] |
|---|---|---|---|---|---|---|
| **Pyelonephritis** | | | | | | |
| Separations[d] | 33,822 | 9,611 | 4,681 | 925 | 689 | 49,782 |
| Separation rate[e] | 2.25 | 2.09 | 2.27 | 3.21 | 5.24 | 2.25 |
| Standardised separation rate ratio (SRR) | 1.00 | 0.93 | 1.01 | 1.43 | 2.33 | |
| 95% confidence interval of SRR | 0.99–1.01 | 0.91–0.95 | 0.98–1.04 | 1.34–1.52 | 2.15–2.50 | |
| **Total acute conditions** | | | | | | |
| Separations[d] | 181,609 | 61,545 | 32,577 | 7,154 | 4,619 | 287,865 |
| Proportion of total separations(%) | 3.4 | 3.9 | 4.3 | 5.5 | 5.7 | 3.7 |
| Separation rate[e] | 12.46 | 14.44 | 16.23 | 22.99 | 29.28 | 13.47 |
| Standardised separation rate ratio (SRR) | 0.92 | 1.07 | 1.20 | 1.71 | 2.17 | |
| 95% confidence interval of SRR | 0.92–0.93 | 1.06–1.08 | 1.19–1.22 | 1.67–1.75 | 2.11–2.24 | |
| **Chronic conditions** | | | | | | |
| **Angina** | | | | | | |
| Separations[d] | 21,976 | 10,599 | 4,658 | 844 | 309 | 38,422 |
| Separation rate[e] | 1.47 | 2.13 | 2.11 | 2.92 | 2.48 | 1.71 |
| Standardised separation rate ratio (SRR) | 0.86 | 1.25 | 1.24 | 1.71 | 1.46 | |
| 95% confidence interval of SRR | 0.85–0.87 | 1.23–1.27 | 1.20–1.27 | 1.60–1.83 | 1.29–1.62 | |
| **Asthma** | | | | | | |
| Separations[d] | 24,665 | 7,499 | 4,093 | 742 | 454 | 37,492 |
| Separation rate[e] | 1.77 | 1.85 | 2.06 | 2.25 | 2.60 | 1.82 |
| Standardised separation rate ratio (SRR) | 0.97 | 1.02 | 1.13 | 1.24 | 1.43 | |
| 95% confidence interval of SRR | 0.96–0.98 | 0.99–1.04 | 1.10–1.16 | 1.15–1.33 | 1.30–1.56 | |
| **Chronic obstructive pulmonary disease** | | | | | | |
| Separations[d] | 36,565 | 14,289 | 7,862 | 1,541 | 815 | 61,139 |
| Separation rate[e] | 2.45 | 2.84 | 3.56 | 5.55 | 7.22 | 2.72 |
| Standardised separation rate ratio (SRR) | 0.90 | 1.04 | 1.31 | 2.04 | 2.65 | |
| 95% confidence interval of SRR | 0.89–0.91 | 1.03–1.06 | 1.28–1.34 | 1.94–2.14 | 2.47–2.83 | |
| **Congestive cardiac failure** | | | | | | |
| Separations[d] | 29,121 | 9,923 | 5,312 | 775 | 416 | 45,572 |
| Separation rate[e] | 1.88 | 1.94 | 2.46 | 3.02 | 3.75 | 1.98 |
| Standardised separation rate ratio (SRR) | 0.95 | 0.98 | 1.24 | 1.53 | 1.90 | |
| 95% confidence interval of SRR | 0.94–0.96 | 0.96–1.00 | 1.21–1.28 | 1.42–1.63 | 1.72–2.08 | |

*(continued)*

**Table A5.2 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by remoteness area of usual residence, all hospitals, 2007–08**

| | Major cities | Inner regional | Outer regional | Remote | Very remote | Total[c] |
|---|---|---|---|---|---|---|
| **Diabetes complications** | | | | | | |
| Separations[d] | 137,650 | 53,583 | 30,604 | 11,321 | 3,872 | 237,118 |
| Separation rate[e] | 9.37 | 11.00 | 13.96 | 36.29 | 28.49 | 10.70 |
| Standardised separation rate ratio (SRR) | 0.88 | 1.03 | 1.31 | 3.39 | 2.66 | |
| 95% confidence interval of SRR | 0.87–0.88 | 1.02–1.04 | 1.29–1.32 | 3.33–3.46 | 2.58–2.75 | |
| **Hypertension** | | | | | | |
| Separations[d] | 3,215 | 1,531 | 1,141 | 176 | 112 | 6,181 |
| Separation rate[e] | 0.22 | 0.32 | 0.53 | 0.66 | 1.03 | 0.28 |
| Standardised separation rate ratio (SRR) | 0.78 | 1.15 | 1.91 | 2.39 | 3.72 | |
| 95% confidence interval of SRR | 0.75–0.81 | 1.09–1.21 | 1.80–2.02 | 2.03–2.74 | 3.03–4.41 | |
| **Iron deficiency anaemia** | | | | | | |
| Separations[d] | 18,258 | 5,697 | 2,375 | 198 | 126 | 26,662 |
| Separation rate[e] | 1.24 | 1.20 | 1.11 | 0.72 | 0.90 | 1.21 |
| Standardised separation rate ratio (SRR) | 1.02 | 1.00 | 0.91 | 0.59 | 0.75 | |
| 95% confidence interval of SRR | 1.01–1.04 | 0.97–1.02 | 0.88–0.95 | 0.51–0.67 | 0.62–0.88 | |
| **Nutritional deficiencies** | | | | | | |
| Separations[d] | 83 | 21 | 20 | 9 | 10 | 143 |
| Separation rate[e] | 0.01 | 0.00 | 0.01 | 0.03 | 0.04 | 0.01 |
| Standardised separation rate ratio (SRR) | 0.86 | 0.71 | 1.43 | 4.07 | 6.48 | |
| 95% confidence interval of SRR | 0.67–1.04 | 0.40–1.01 | 0.80–2.05 | 1.41–6.73 | 2.47–10.50 | |
| **Rheumatic heart disease[f]** | | | | | | |
| Separations[d] | 1,484 | 597 | 265 | 116 | 182 | 2,648 |
| Separation rate[e] | 0.10 | 0.12 | 0.12 | 0.37 | 1.02 | 0.12 |
| Standardised separation rate ratio (SRR) | 0.84 | 1.01 | 0.99 | 3.09 | 8.47 | |
| 95% confidence interval of SRR | 0.80–0.88 | 0.93–1.09 | 0.87–1.11 | 2.52–3.65 | 7.24–9.70 | |
| **Total chronic conditions** | | | | | | |
| Separations[d] | 257,808 | 98,207 | 53,491 | 15,218 | 6,036 | 431,021 |
| Proportion of total separations(%) | 4.9 | 6.2 | 7.1 | 11.7 | 7.5 | 5.5 |
| Separation rate[e] | 17.47 | 20.32 | 24.62 | 50.02 | 45.43 | 19.46 |
| Standardised separation rate ratio (SRR) | 0.90 | 1.04 | 1.27 | 2.57 | 2.34 | |
| 95% confidence interval of SRR | 0.89–0.90 | 1.04–1.05 | 1.25–1.28 | 2.53–2.61 | 2.28–2.39 | |

*(continued)*

**Table A5.2 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by remoteness area of usual residence, all hospitals, 2007–08**

| | Major cities | Inner regional | Outer regional | Remote | Very remote | Total[c] |
|---|---|---|---|---|---|---|
| **Total potentially preventable hospitalisations** | | | | | | |
| Separations[d] | 447,168 | 162,145 | 87,298 | 22,677 | 10,910 | 730,840 |
| Proportion of total separations(%) | 8.5 | 10.3 | 11.6 | 17.4 | 13.5 | 9.3 |
| Separation rate[e] | 30.46 | 35.31 | 41.45 | 73.98 | 76.15 | 33.48 |
| Standardised separation rate ratio (SRR) | 0.91 | 1.05 | 1.24 | 2.21 | 2.27 | |
| 95% confidence interval of SRR | 0.91–0.91 | 1.05–1.06 | 1.23–1.25 | 2.18–2.24 | 2.23–2.32 | |

(a) Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.

(b) These conditions are defined using ICD-10-AM codes in *Appendix 1*.

(c) Includes unknown remoteness area and excludes overseas residents and unknown state of residence.

(d) Excludes multiple diagnoses for the same separation within the same group.

(e) Rate per 1,000 population was directly age-standardised as detailed in *Appendix 1*.

(f) *Rheumatic heart disease* includes acute rheumatic fever as well as the chronic disease.

n.p. Not published.

**Table A5.3: Separation statistics[a] for selected potentially preventable hospitalisations[b], by quintile of socioeconomic advantage/disadvantage[c], all hospitals, 2007–08**

| | Most disadvantaged | Second most disadvantaged | Middle quintile | Second most advantaged | Most advantaged | Total[d] |
|---|---|---|---|---|---|---|
| **Vaccine-preventable conditions** | | | | | | |
| **Influenza and pneumonia** | | | | | | |
| Separations[e] | 3,116 | 2,543 | 2,297 | 2,084 | 2,043 | 12,094 |
| Separation rate[f] | 0.72 | 0.59 | 0.54 | 0.52 | 0.49 | 0.57 |
| Standardised separation rate ratio (SRR) | 1.26 | 1.03 | 0.95 | 0.90 | 0.85 | |
| 95% confidence interval of SRR | 1.22–1.30 | 0.99–1.07 | 0.91–0.99 | 0.86–0.94 | 0.82–0.89 | |
| **Other vaccine-preventable conditions** | | | | | | |
| Separations[e] | 713 | 532 | 535 | 748 | 714 | 3,245 |
| Separation rate[f] | 0.17 | 0.13 | 0.13 | 0.18 | 0.17 | 0.15 |
| Standardised separation rate ratio (SRR) | 1.12 | 0.83 | 0.81 | 1.19 | 1.08 | |
| 95% confidence interval of SRR | 1.03–1.20 | 0.76–0.90 | 0.75–0.88 | 1.10–1.27 | 1.00–1.16 | |
| **Total vaccine-preventable** | | | | | | |
| Separations[e] | 3,825 | 3,075 | 2,831 | 2,826 | 2,754 | 15,325 |
| Proportion of total separations (%) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Separation rate[f] | 0.89 | 0.72 | 0.67 | 0.70 | 0.66 | 0.73 |
| Standardised separation rate ratio (SRR) | 1.23 | 0.99 | 0.92 | 0.96 | 0.90 | |
| 95% confidence interval of SRR | 1.19–1.27 | 0.96–1.03 | 0.89–0.95 | 0.92–0.99 | 0.87–0.93 | |
| **Acute conditions** | | | | | | |
| **Appendicitis with generalised peritonitis** | | | | | | |
| Separations[e] | 761 | 713 | 801 | 799 | 703 | 3,780 |
| Separation rate[f] | 0.18 | 0.18 | 0.19 | 0.20 | 0.17 | 0.18 |
| Standardised separation rate ratio (SRR) | 1.00 | 0.96 | 1.04 | 1.07 | 0.93 | |
| 95% confidence interval of SRR | 0.93–1.07 | 0.89–1.03 | 0.97–1.11 | 0.99–1.14 | 0.86–1.00 | |
| **Cellulitis** | | | | | | |
| Separations[e] | 9,484 | 7,817 | 7,201 | 6,713 | 5,978 | 37,232 |
| Separation rate[f] | 2.21 | 1.82 | 1.69 | 1.64 | 1.39 | 1.75 |
| Standardised separation rate ratio (SRR) | 1.27 | 1.04 | 0.97 | 0.94 | 0.79 | |
| 95% confidence interval of SRR | 1.24–1.29 | 1.02–1.06 | 0.94–0.99 | 0.91–0.96 | 0.77–0.81 | |
| **Convulsions and epilepsy** | | | | | | |
| Separations[e] | 8,330 | 6,981 | 6,710 | 5,731 | 5,183 | 32,974 |
| Separation rate[f] | 2.01 | 1.73 | 1.61 | 1.40 | 1.27 | 1.60 |
| Standardised separation rate ratio (SRR) | 1.26 | 1.08 | 1.00 | 0.88 | 0.79 | |
| 95% confidence interval of SRR | 1.23–1.28 | 1.06–1.11 | 0.98–1.03 | 0.85–0.90 | 0.77–0.81 | |

*(continued)*

**Table A5.3 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by quintile of socioeconomic advantage/disadvantage[c], all hospitals, 2007–08**

| | Most disadvantaged | Second most disadvantaged | Middle quintile | Second most advantaged | Most advantaged | Total[d] |
|---|---|---|---|---|---|---|
| **Dehydration and gastroenteritis** | | | | | | |
| Separations[e] | 14,009 | 11,180 | 10,169 | 10,864 | 9,199 | 55,469 |
| Separation rate[f] | 3.26 | 2.61 | 2.38 | 2.64 | 2.14 | 2.60 |
| Standardised separation rate ratio (SRR) | 1.25 | 1.00 | 0.91 | 1.02 | 0.82 | |
| 95% confidence interval of SRR | 1.23–1.27 | 0.98–1.02 | 0.89–0.93 | 1.00–1.03 | 0.81–0.84 | |
| **Dental conditions** | | | | | | |
| Separations[e] | 11,738 | 11,993 | 12,004 | 11,120 | 11,081 | 57,955 |
| Separation rate[f] | 2.83 | 3.00 | 2.89 | 2.73 | 2.71 | 2.83 |
| Standardised separation rate ratio (SRR) | 1.00 | 1.06 | 1.02 | 0.96 | 0.96 | |
| 95% confidence interval of SRR | 0.98–1.02 | 1.04–1.08 | 1.00–1.04 | 0.95–0.98 | 0.94–0.98 | |
| **Ear, nose and throat infections** | | | | | | |
| Separations[e] | 8,934 | 8,009 | 7,455 | 6,476 | 5,244 | 36,153 |
| Separation rate[f] | 2.15 | 2.03 | 1.81 | 1.60 | 1.33 | 1.79 |
| Standardised separation rate ratio (SRR) | 1.20 | 1.14 | 1.01 | 0.89 | 0.74 | |
| 95% confidence interval of SRR | 1.18–1.23 | 1.11–1.16 | 0.99–1.03 | 0.87–0.92 | 0.72–0.76 | |
| **Gangrene** | | | | | | |
| Separations[e] | 1,154 | 919 | 883 | 827 | 778 | 4,566 |
| Separation rate[f] | 0.26 | 0.21 | 0.21 | 0.20 | 0.18 | 0.21 |
| Standardised separation rate ratio (SRR) | 1.24 | 0.98 | 0.97 | 0.95 | 0.84 | |
| 95% confidence interval of SRR | 1.17–1.32 | 0.92–1.05 | 0.91–1.04 | 0.89–1.02 | 0.79–0.90 | |
| **Pelvic inflammatory disease** | | | | | | |
| Separations[e] | 1,035 | 1,046 | 1,062 | 957 | 793 | 4,897 |
| Separation rate[f] | 0.26 | 0.27 | 0.25 | 0.23 | 0.19 | 0.24 |
| Standardised separation rate ratio (SRR) | 1.10 | 1.13 | 1.05 | 0.95 | 0.78 | |
| 95% confidence interval of SRR | 1.03–1.17 | 1.06–1.20 | 0.98–1.11 | 0.89–1.01 | 0.73–0.84 | |
| **Perforated/bleeding ulcer** | | | | | | |
| Separations[e] | 1,272 | 1,051 | 1,027 | 1,015 | 879 | 5,248 |
| Separation rate[f] | 0.29 | 0.23 | 0.24 | 0.25 | 0.20 | 0.24 |
| Standardised separation rate ratio (SRR) | 1.18 | 0.95 | 0.99 | 1.05 | 0.83 | |
| 95% confidence interval of SRR | 1.12–1.25 | 0.89–1.01 | 0.93–1.05 | 0.98–1.11 | 0.78–0.89 | |

*(continued)*

**Table A5.3 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by quintile of socioeconomic advantage/disadvantage[c], all hospitals, 2007–08**

| | Most disadvantaged | Second most disadvantaged | Middle quintile | Second most advantaged | Most advantaged | Total[d] |
|---|---|---|---|---|---|---|
| **Pyelonephritis** | | | | | | |
| Separations[e] | 11,216 | 10,011 | 9,993 | 9,424 | 9,091 | 49,782 |
| Separation rate[f] | 2.56 | 2.25 | 2.33 | 2.32 | 2.08 | 2.31 |
| Standardised separation rate ratio (SRR) | 1.11 | 0.98 | 1.01 | 1.00 | 0.90 | |
| 95% confidence interval of SRR | 1.09–1.13 | 0.96–0.99 | 0.99–1.03 | 0.98–1.02 | 0.88–0.92 | |
| **Total acute conditions** | | | | | | |
| Separations[e] | 67,889 | 59,684 | 57,276 | 53,898 | 48,875 | 287,865 |
| Proportion of total separations (%) | 4.0 | 3.7 | 3.7 | 3.7 | 3.2 | 3.7 |
| Separation rate[f] | 16.02 | 14.32 | 13.58 | 13.20 | 11.64 | 13.75 |
| Standardised separation rate ratio (SRR) | 1.17 | 1.04 | 0.99 | 0.96 | 0.85 | |
| 95% confidence interval of SRR | 1.16–1.17 | 1.03–1.05 | 0.98–1.00 | 0.95–0.97 | 0.84–0.85 | |
| **Chronic conditions** | | | | | | |
| **Angina** | | | | | | |
| Separations[e] | 11,739 | 9,187 | 7,033 | 6,507 | 3,934 | 38,422 |
| Separation rate[f] | 2.59 | 1.97 | 1.63 | 1.61 | 0.90 | 1.75 |
| Standardised separation rate ratio (SRR) | 1.48 | 1.12 | 0.93 | 0.92 | 0.51 | |
| 95% confidence interval of SRR | 1.45–1.50 | 1.10–1.15 | 0.91–0.95 | 0.90–0.94 | 0.50–0.53 | |
| **Asthma** | | | | | | |
| Separations[e] | 9,388 | 7,874 | 7,902 | 6,880 | 5,423 | 37,492 |
| Separation rate[f] | 2.25 | 1.98 | 1.92 | 1.71 | 1.39 | 1.85 |
| Standardised separation rate ratio (SRR) | 1.21 | 1.07 | 1.04 | 0.92 | 0.75 | |
| 95% confidence interval of SRR | 1.19–1.24 | 1.04–1.09 | 1.01–1.06 | 0.90–0.95 | 0.73–0.77 | |
| **Chronic obstructive pulmonary disease** | | | | | | |
| Separations[e] | 17,850 | 13,866 | 11,830 | 10,047 | 7,485 | 61,140 |
| Separation rate[f] | 3.89 | 2.91 | 2.76 | 2.54 | 1.74 | 2.80 |
| Standardised separation rate ratio (SRR) | 1.39 | 1.04 | 0.99 | 0.91 | 0.62 | |
| 95% confidence interval of SRR | 1.37–1.41 | 1.03–1.06 | 0.97–1.01 | 0.89–0.93 | 0.61–0.64 | |
| **Congestive cardiac failure** | | | | | | |
| Separations[e] | 11,728 | 9,507 | 8,515 | 8,208 | 7,592 | 45,572 |
| Separation rate[f] | 2.54 | 1.97 | 1.96 | 2.03 | 1.67 | 2.04 |
| Standardised separation rate ratio (SRR) | 1.24 | 0.96 | 0.96 | 1.00 | 0.82 | |
| 95% confidence interval of SRR | 1.22–1.27 | 0.95–0.98 | 0.94–0.98 | 0.98–1.02 | 0.80–0.84 | |

*(continued)*

**Table A5.3 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by quintile of socioeconomic advantage/disadvantage[c], all hospitals, 2007–08**

| | Most disadvantaged | Second most disadvantaged | Middle quintile | Second most advantaged | Most advantaged | Total[d] |
|---|---|---|---|---|---|---|
| **Diabetes complications** | | | | | | |
| Separations[e] | 61,574 | 56,162 | 52,710 | 39,700 | 26,906 | 237,119 |
| Separation rate[f] | 13.69 | 12.17 | 12.32 | 9.94 | 6.40 | 10.96 |
| Standardised separation rate ratio (SRR) | 1.25 | 1.11 | 1.12 | 0.91 | 0.58 | |
| 95% confidence interval of SRR | 1.24–1.26 | 1.10–1.12 | 1.11–1.13 | 0.90–0.92 | 0.58–0.59 | |
| **Hypertension** | | | | | | |
| Separations[e] | 1,951 | 1,435 | 931 | 974 | 887 | 6,181 |
| Separation rate[f] | 0.44 | 0.31 | 0.22 | 0.24 | 0.20 | 0.28 |
| Standardised separation rate ratio (SRR) | 1.54 | 1.11 | 0.77 | 0.85 | 0.72 | |
| 95% confidence interval of SRR | 1.47–1.60 | 1.05–1.17 | 0.72–0.82 | 0.80–0.90 | 0.67–0.77 | |
| **Iron deficiency anaemia** | | | | | | |
| Separations[e] | 5,860 | 5,417 | 5,061 | 5,418 | 4,898 | 26,662 |
| Separation rate[f] | 1.32 | 1.20 | 1.19 | 1.34 | 1.14 | 1.24 |
| Standardised separation rate ratio (SRR) | 1.07 | 0.97 | 0.96 | 1.08 | 0.92 | |
| 95% confidence interval of SRR | 1.04–1.10 | 0.94–1.00 | 0.93–0.98 | 1.05–1.11 | 0.89–0.94 | |
| **Nutritional deficiencies** | | | | | | |
| Separations[e] | 39 | 34 | 33 | 13 | 24 | 143 |
| Separation rate[f] | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 |
| Standardised separation rate ratio (SRR) | 1.32 | 1.15 | 1.15 | 0.48 | 0.84 | |
| 95% confidence interval of SRR | 0.90–1.73 | 0.76–1.53 | 0.76–1.55 | 0.22–0.73 | 0.51–1.18 | |
| **Rheumatic heart disease[g]** | | | | | | |
| Separations[e] | 762 | 521 | 495 | 440 | 428 | 2,648 |
| Separation rate[f] | 0.17 | 0.11 | 0.12 | 0.11 | 0.10 | 0.12 |
| Standardised separation rate ratio (SRR) | 1.41 | 0.91 | 0.94 | 0.89 | 0.83 | |
| 95% confidence interval of SRR | 1.31–1.51 | 0.84–0.99 | 0.86–1.03 | 0.81–0.97 | 0.75–0.91 | |
| **Total chronic conditions** | | | | | | |
| Separations[e] | 113,934 | 98,460 | 89,699 | 74,129 | 54,600 | 431,023 |
| Proportion of total separations (%) | 6.8 | 6.2 | 5.7 | 5.0 | 3.6 | 5.5 |
| Separation rate[f] | 25.37 | 21.47 | 21.01 | 18.50 | 12.86 | 19.94 |
| Standardised separation rate ratio (SRR) | 1.27 | 1.08 | 1.05 | 0.93 | 0.64 | |
| 95% confidence interval of SRR | 1.27–1.28 | 1.07–1.08 | 1.05–1.06 | 0.92–0.93 | 0.64–0.65 | |

*(continued)*

**Table A5.3 (continued): Separation statistics[a] for selected potentially preventable hospitalisations[b], by quintile of socioeconomic advantage/ disadvantage[c], all hospitals, 2007–08**

| | Most disadvantaged | Second most disadvantaged | Middle quintile | Second most advantaged | Most advantaged | Total[d] |
|---|---|---|---|---|---|---|
| **Total potentially preventable hospitalisations** | | | | | | |
| Separations[e] | 184,690 | 160,473 | 149,148 | 130,248 | 105,826 | 730,842 |
| Proportion of total separations (%) | 11.0 | 10.1 | 9.5 | 8.9 | 6.9 | 9.3 |
| Separation rate[f] | 42.07 | 36.34 | 35.10 | 32.25 | 25.06 | 34.26 |
| Standardised separation rate ratio (SRR) | 1.23 | 1.06 | 1.02 | 0.94 | 0.73 | |
| 95% confidence interval of SRR | 1.22–1.23 | 1.06–1.07 | 1.02–1.03 | 0.94–0.95 | 0.73–0.74 | |

(a) Separations for which the care type was reported as *Newborn* with no qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded.

(b) These conditions are defined using ICD-10-AM codes in *Appendix 1*.

(c) Based on the Australian Bureau of Statistics' SEIFA 2006 Index of Relative Advantage/Disadvantage score for the Statistical Local Area of the patient's usual residence.

(d) Includes unknown residence area and excludes overseas residents and unknown state of residence.

(e) Excludes multiple diagnoses for the same separation within the same group.

(f) Rate per 1,000 population was directly age-standardised as detailed in *Appendix 1*.

(g) *Rheumatic heart disease* includes acute rheumatic fever as well as the chronic disease.

# Appendix 6: The state of our public hospitals, June 2009 report

*The state of our public hospitals, June 2009 report* is to be published by the Australian Government Department of Health and Ageing. It is the responsibility of the Commonwealth under Part 3 of the 2003–2008 Australian Health Care Agreements to publish this report.

*The state of our public hospitals, June 2009 report* is expected to present a range of data on public and private hospitals relating to the 2007–08 financial year, using data supplied to the Department by the states and territories, and some previously published data, including data in *Australian hospital statistics*.

There may be some statistics on public hospitals in *The state of our public hospitals, June 2009 report* that differ from statistics presented in *Australian hospital statistics 2007–08*. While these statistics are both based on the same national minimum datasets specified in the *National health data dictionary*, differences result from minor variations in the analysis methods used to derive particular statistics.

Notes on any differences between the two reports will be published on the *Australian hospital statistics 2007–08* Internet site after *The state of our public hospitals, June 2009* is published.

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# Glossary

For further information on the terms used in this report, refer to the definitions in use in the *National health data dictionary version 12, version 12 supplement* and *version 13* (NHDC 2003, AIHW 2004b, HDSC 2006). Each definition contains an identification number from the Metadata Online Registry (METeOR). METeOR is Australia's central repository for health, community services and housing assistance metadata, or 'data about data'. It provides definitions for data for health and community services-related topics, and specifications for related national minimum data sets (NMDSs), such as the NMDSs which form the basis of this report. METeOR can be viewed on the AIHW website at <www.aihw.gov.au>.

| | |
|---|---|
| *Accident and emergency occasion of service* | A non-admitted patient occasion of service reported to the National Public Hospital Establishments Database with a *Type of non-admitted patient occasion of service* type of *Emergency services*. |
| *Activity when injured* | The type of activity being undertaken by a person at the time of injury.<br><br>METeOR identifier: 333849 |
| *Acute* | Having a short and relatively severe course. |
| *Acute care* | See *Care type*. |
| *Acute care hospital* | See *Establishment type*. |
| *Additional diagnosis* | Conditions or complaints either coexisting with the principal diagnosis or arising during the episode of care.<br><br>METeOR identifier: 333832 |
| *Adjustment* | A summarising procedure for a statistical measure in which the effects of differences in composition of the populations being compared have been minimised by statistical methods. |
| *Administrative and clerical staff* | See *Full-time equivalent staff*. |
| *Administrative expenditure* | All expenditure incurred by establishments (but not central administrations) of a management expense/administrative support nature, such as any rates and taxes, printing, telephone, stationery and insurance expenses (including workers compensation).<br><br>METeOR identifier: 270107 |
| *Admitted patient* | A patient who undergoes a hospital's formal admission process to receive treatment and/or care. This treatment and/or care is provided over a period of time and can occur in hospital and/or in the person's home (for hospital-in-the-home patients).<br><br>METeOR identifier: 268957 |
| *Admitted patient cost proportion* | The ratio of admitted patient costs to total hospital costs, also known as the inpatient fraction or *IFRAC*. |
| *Adverse event* | An incident in which harm resulted to a person receiving health care. |
| *Age-standardisation* | A set of techniques used to remove as far as possible the effects of differences in age when comparing two or more populations. |
| *Alcohol and drug treatment centre* | See *Establishment type*. |
| *Arrival mode—transport* | The mode of transport by which the person arrives at the emergency department.<br><br>METeOR identifier: 270000 |
| *Australian Refined Diagnosis Related Groups (AR-DRGs)* | An Australian system of diagnosis related groups (DRGs). DRGs provide a clinically meaningful way of relating the number and type of patients treated in a hospital (that is, its casemix) to the resources required by the hospital. Each AR-DRG represents a class of patients with similar clinical conditions requiring similar hospital services.<br><br>METeOR identifier: 270195 |

*Available beds*

Beds immediately available for use by admitted patients as required.

METeOR identifier: 270133

*Average length of stay*

The average number of patient days for admitted patient episodes. Patients admitted and separated on the same day are allocated a length of stay of 1 day.

*Capital expenditure*

Expenditure on large-scale fixed assets (for example, new buildings and equipment with a useful life extending over a number of years).

METeOR identifier: 270516

*Care type*

The care type defines the overall nature of a clinical service provided to an admitted patient during an episode of care (admitted care), or the type of service provided by the hospital for boarders or posthumous organ procurement (other care).

Admitted patient care consists of the following categories:

- Acute care
- Rehabilitation care
- Palliative care
- Geriatric evaluation and management
- Psychogeriatric care
- Maintenance care
- Newborn care
- Other care

Other care is where the principal clinical intent does not meet the criteria for any of the above. Other care can be one of the following:

- Posthumous organ procurement
- Hospital boarder

METeOR identifier: 270174

*Casemix*

The range and types of patients (the mix of cases) treated by a hospital or other health service. Casemix classifications (such as AR-DRGs) provide a way of describing and comparing hospitals and other services for management purposes.

*Chronic*

Persistent and long-lasting.

*Clinical urgency*

A clinical assessment of the urgency with which a patient requires elective hospital care.

METeOR identifier: 270008

*Compensable patient*

An individual who is entitled to receive or has received a compensation payment with respect to an injury or disease.

METeOR identifier: 270100

*Condition onset flag*

The condition onset flag is a means of differentiating those conditions which arise during, or arose before, an admitted patient episode of care. Having this information can provide an insight into the kinds of conditions patients already have when entering hospital and what arises during the episode of care. A better understanding of those conditions arising during the episode of care may inform prevention strategies particularly in relation to complications of medical care.

METeOR identifier: 354816

*Cost weight*

The costliness of an AR-DRG relative to all other AR-DRGs such that the average cost weight for all separations is 1.00. A separation for an AR-DRG with a cost weight of 5.0, therefore, on average, costs 10 times as much as a separation with a cost weight of 0.5. There are separate cost weights for AR-DRGs in the public and private sectors, reflecting the differences in the range of costs in the different sectors. In this report, average cost weights using public cost weights are based on AR-DRG version 5.1 2006–07 public sector estimated cost weights (DoHA 2008). These were applied to AR-DRG version 5.1 DRGs for 2003–04 to 2007–08 reference years. Average private cost weights for the private sector (presented in tables 2.3 and 2.4 in this report) use the most recent private sector estimated cost weights are based on the AR-DRG version 5.1 2006–07 (DoHA 2008) applied to AR-DRG version 5.1 DRGs.

| | |
|---|---|
| *Department of Veterans' Affairs patient* | A person whose charges for the hospital admission are met by the Department of Veterans' Affairs (DVA). These patients include eligible veterans and war widows/widowers. The data are supplied by the states and territories and the eligibility to receive hospital treatment as a DVA patient may not necessarily have been confirmed by the DVA.<br><br>METeOR identifier: 270092 |
| *Diagnosis related group (DRG)* | A widely used casemix classification system used to classify admissions into groups with similar clinical conditions (related diagnoses) and similar resource usage. This allows the activity and performance of hospitals to be compared on a common basis. In Australian acute hospitals, *Australian Refined DRGs* are used.<br><br>METeOR identifier: 270195 |
| *Diagnostic and allied health professionals* | See *Full-time equivalent staff*. |
| *Domestic and other staff* | See *Full-time equivalent staff*. |
| *Domestic services expenditure* | The cost of all domestic services, including electricity, other fuel and power, domestic services for staff, accommodation and kitchen expenses, but not including salaries and wages, food costs or equipment replacement and repair costs.<br><br>METeOR identifier: 270283 |
| *Drug supplies expenditure* | The cost of all drugs, including the cost of containers.<br><br>METeOR identifier: 270282 |
| *Elective care* | Care that, in the opinion of the treating clinician, is necessary and for which admission can be delayed for at least 24 hours.<br><br>METeOR identifier: 335023 |
| *Elective surgery* | Elective care in which the procedures required by patients are listed in the surgical operations section of the Medicare Benefits Schedule, with the exclusion of specific procedures frequently done by non-surgical clinicians and some procedures for which the associated waiting time is strongly influenced by factors other than the supply of services.<br><br>METeOR identifier: 270589 |
| *Elective surgical separation* | Separation for which the urgency of admission was reported as Elective (admission could be delayed by at least 24 hours) and where the assigned Diagnosis Related Group was Surgical (excluding childbirth-related DRGs), and the principal diagnosis was not Z41 (cosmetic surgery). |
| *Emergency department waiting time to service delivery* | The time elapsed for each patient from presentation to the emergency department to commencement of service by a treating medical officer or nurse. It is calculated by deducting the date and time the patient presents from the date and time of the service event.<br><br>METeOR identifier: 270007 |
| *Enrolled nurses* | See *Full-time equivalent staff*. |
| *Episode end status* | The status of the patient at the end of the non-admitted patient emergency department occasion of service.<br><br>METeOR identifier: 322641 |
| *Episode of care* | The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only one care type (see *Care type* and *Separation*).<br><br>METeOR identifier: 270174 (Care type)<br><br>METeOR identifier: 268956 (Episode of admitted patient care) |
| *Error DRGs* | AR-DRGs to which separations are grouped if their records contain clinically inconsistent or invalid information. |

*Establishment type*

Type of establishment (defined in terms of legislative approval, service provided and patients treated) for each separately administered establishment. Establishment types include:

- Acute care hospitals
- Psychiatric hospitals
- Alcohol and drug treatment centres
- Hospices

METeOR identifier: 269971

*External cause*

The environmental event, circumstance or condition as the cause of injury, poisoning and other adverse effect.

METeOR identifier: 333853

*Full-time equivalent staff*

Full-time equivalent staff units are the on-job hours paid for (including overtime) and hours of paid leave of any type for a staff member (or contract employee, where applicable) divided by the number of ordinary time hours normally paid for a full-time staff member when on the job (or contract employee, where applicable) under the relevant award or agreement for the staff member (or contract employee occupation, where applicable). Staffing categories include:

- Salaried medical officers
- Registered nurses
- Enrolled nurses
- Student nurses
- Other personal care staff
- Diagnostic and allied health professionals
- Administrative and clerical staff
- Domestic and other staff

METeOR identifier: 270543

*Funding source for hospital patient*

Expected principal source of funds for an admitted patient episode or non-admitted patient service event.

METeOR identifier: 270103

*Geriatric evaluation and management*

See *Care type*.

*Group session*

A service provided to two or more patients, but excludes services provided to two or more family members, which are treated as services provided to an individual.

METeOR identifier: 269119

*HASAC (Health and Allied Services Advisory Council) ratio*

For hospitals where the IFRAC is not available or is clearly inconsistent with the data, admitted patient costs are estimated by the HASAC ratio (see *Appendix 1*).

*Hospice*

See *Establishment type*.

*Hospital*

A health-care facility established under Commonwealth, state or territory legislation as a hospital or a free-standing day procedure unit and authorised to provide treatment and/or care to patients.

METeOR identifier: 268971

*Hospital boarder*

See *Care type*.

*Hospital-in-the-home care*

Provision of care to hospital admitted patients in their place of residence as a substitute for hospital accommodation. Place of residence may be permanent or temporary.

METeOR identifier: 270305

*IFRAC (inpatient fraction)*

A measure used to calculate the cost per casemix-adjusted separation. It is the ratio of admitted patient costs to total hospital costs, also known as the admitted patient cost proportion ratio (see *Appendix 1*).

*Indicator procedure*

A procedure which is of high volume, and is often associated with long waiting periods. Elective surgery waiting time statistics for indicator procedures give a specific indication of waiting time for these in particular areas of elective care provision.

METeOR identifier: 334984

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| *Indigenous status* | A measure of whether a person identifies as being of Aboriginal or Torres Strait Islander origin. This is in accord with the first two of three components of the Commonwealth definition below:<br><br>An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he or she lives.<br><br>METeOR identifier: 291036 |
| *Inpatient* | See *Admitted patient*.<br><br>METeOR identifier: 268957 |
| *Interactive data cubes* | A multidimensional representation of data which provides fast retrieval from multiple layers of information. |
| *International Classification of Diseases (ICD)* | The World Health Organization's internationally accepted classification of diseases and related health conditions. The 10th revision, Australian modification (ICD-10-AM) is currently in use in Australian hospitals for admitted patients. |
| *Inter-hospital contracted care* | An episode of care for an admitted patient whose treatment and/or care is provided under an arrangement (either written or verbal) between a hospital purchaser (contracting hospital) and a provider of an admitted service (contracted hospital), and for which the activity is recorded by both hospitals.<br><br>METeOR identifier: 270409 |
| *Length of stay* | The length of stay of an overnight patient is calculated by subtracting the date the patient is admitted from the date of separation and deducting days the patient was on leave. A same-day patient is allocated a length of stay of 1 day.<br><br>METeOR identifier: 269982 |
| *Licensed bed* | A bed in a private hospital, licensed by the relevant state or territory health authority. |
| *Maintenance care* | See *Care type*. |
| *Major diagnostic categories (MDCs)* | A high level of groupings of patients used in the AR-DRG classification. They correspond generally to the major organ systems of the body.<br><br>METeOR identifier: 270400 |
| *Medical and surgical supplies expenditure* | The cost of all consumables of a medical or surgical nature (excluding drug supplies) but not including expenditure on equipment repairs.<br><br>METeOR identifier: 270358 |
| *Mode of admission* | The mechanism by which a person begins an episode of admitted patient care.<br><br>METeOR identifier: 269976 |
| *Mode of separation* | Status at separation of person (discharge/transfer/death) and place to which person is released (where applicable).<br><br>METeOR identifier: 270094 |
| *National health data dictionary (NHDD)* | A publication that contains a core set of uniform definitions relating to the full range of health services and a range of population parameters. |
| *Newborn care* | See *Care type*. |
| *Non-admitted patient* | A patient who receives care from a recognised non-admitted patient service/clinic of a hospital.<br><br>METeOR identifier: 268973 |
| *Non-admitted patient occasion of service* | Occurs when a patient attends a functional unit of the hospital for the purpose of receiving some form of service, but is not admitted. A visit for administrative purposes is not an occasion of service.<br><br>METeOR identifier: 270506 |
| *Number of days of hospital-in-the-home care* | The number of hospital-in-the-home days occurring within an episode of care for an admitted patient.<br><br>METeOR identifier: 270305 |
| *Occasion of service* | Non-admitted patient occasion of service. |

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| *Other care* | See *Care type*. |
| *Other personal care staff* | See *Full-time equivalent staff*. |
| *Other recurrent expenditure* | Recurrent expenditure not included elsewhere in any of the recurrent expenditure categories.<br>METeOR identifier: 270126 |
| *Other revenue* | All other revenue received by the establishment that is not included under patient revenue or recoveries (but not including revenue payments received from state or territory governments). This includes revenue such as investment income from temporarily surplus funds and income from charities, bequests and accommodation provided to visitors.<br>METeOR identifier: 270128 |
| *Outpatient* | See *Non-admitted patient*.<br>METeOR identifier: 268973 |
| *Outpatient clinic service* | An examination, consultation, treatment or other service provided to non-admitted non-emergency patients in a specialty unit or under an organisational arrangement administered by a hospital.<br>METeOR identifier: 327310 |
| *Outpatient clinic type* | The nature of services which are provided by *Outpatient clinic services*.<br>METeOR identifier: 291073 |
| *Overnight-stay patient* | A patient who, following a clinical decision, receives hospital treatment for a minimum of 1 night (that is, who is admitted to and separated from the hospital on different dates). |
| *Palliative care* | See *Care type*. |
| *Patient days* | The total number of days for patients who were admitted for an episode of care and who separated during a specified reference period. A patient who is admitted and separated on the same day is allocated 1 patient day.<br>METeOR identifier: 270045 |
| *Patient election status* | Accommodation chargeable status elected by patient on admission. The categories are:<br>Public (receives public hospital services free of charge)<br>Private (does not receive hospital services free of charge)<br>METeOR identifier: 270044 |
| *Patient presentation at emergency department* | The presentation of a patient at an emergency department occurs following the arrival of the patient at the emergency department. It is the earliest occasion of being registered clerically, or triaged.<br>METeOR identifier: 270393 |
| *Patient revenue* | Revenue received by, and due to, an establishment in respect of individual patient liability for accommodation and other establishment charges.<br>METeOR identifier: 270047 |
| *Patient transport* | The direct cost of transporting patients, excluding salaries and wages of transport staff.<br>METeOR identifier: 270048 |
| *Payments to visiting medical officers* | All payments made to visiting medical officers for medical services provided to hospital (public) patients on a sessionally paid or fee-for-service basis.<br>METeOR identifier: 270049 |
| *Peer group* | Groupings of hospitals into broadly similar groups in terms of their volume of admitted patient activity and their geographical location. |
| *Percentile* | Any one of 99 values that divide the range of probability distribution or sample into 100 intervals of equal probability or frequency. |
| *Performance indicator* | A statistic or other unit of information that reflects, directly or indirectly, the extent to which an expected outcome is achieved or the quality of processes leading to that outcome. |
| *Place of occurrence of external cause* | The place where the external cause of injury, poisoning or adverse effect occurred.<br>METeOR identifier: 333874 |

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| *Posthumous organ procurement* | See *Care type.* |
| *Potentially preventable hospitalisation (selected)* | Those conditions where hospitalisation is thought to be avoidable if timely and adequate non-hospital care is provided. |
| *Pre-MDC (Pre-major diagnostic category)* | Twelve AR-DRGs to which separations are grouped, regardless of their principal diagnoses, if they involve procedures that are particularly resource-intensive (transplants, tracheostomies or extra-corporeal membrane oxygenation without cardiac surgery). |
| *Principal diagnosis* | The diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care.<br><br>METeOR identifier: 333838 |
| *Private hospital* | A privately owned and operated institution, catering for patients who are treated by a doctor of their own choice. Patients are charged fees for accommodation and other services provided by the hospital and relevant medical and paramedical practitioners. Acute care and psychiatric hospitals are included, as are private free-standing day hospital facilities. See also *Establishment type*. |
| *Private patient* | A patient admitted to a hospital who decides to choose the doctor(s) who will treat them and/or to have private ward accommodation. They are charged for medical services, food and accommodation. |
| *Procedure* | A clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training and/or requires special facilities or equipment available only in the acute care setting.<br><br>METeOR identifier: 333828 |
| *Psychiatric hospital* | See *Establishment type.* |
| *Psychogeriatric care* | See *Care type*. |
| *Public hospital* | A hospital controlled by a state or territory health authority. Public hospitals offer free diagnostic services, treatment, care and accommodation to all eligible patients. See also *Establishment type.* |
| *Public patient* | A patient admitted to a hospital who has agreed to be treated by doctors of the hospital's choice and to accept shared accommodation. This means the patient is not charged. |
| *Qualified days* | The number of qualified days within newborn episodes of care. Days within newborn episodes of care are either qualified or unqualified. This definition includes all babies who are 9 days old or less. A newborn day is qualified (acute) when a newborn meets at least one of the following criteria:<br><br>is the second or subsequent live born infant of a multiple birth, whose mother is currently an admitted patient<br><br>is admitted to an intensive care facility in a hospital, being a facility approved by the Australian Government Health Minister for the purpose of the provision of special care<br><br>remains in hospital without its mother<br><br>is admitted to the hospital without its mother.<br><br>METeOR identifier: 268957 (Admitted patient) and<br><br>METeOR identifier: 270033 (Newborn qualification status) |
| *Recoveries* | All revenue received that is in the nature of a recovery of expenditure incurred. This includes income from provision of meals and accommodation to hospital staff, income from the use of hospital facilities for private practice and some recoveries relating to inter-hospital services.<br><br>METeOR identifier: 269974 |
| *Recurrent expenditure* | Expenditure on goods and services which are used up during the year; for example, salaries and wages expenditure and non-salary expenditure such as payments to visiting medical officers.<br><br>METeOR identifier: 269132 |
| *Registered nurses* | See *Full-time equivalent staff*. |
| *Rehabilitation care* | See *Care type*. |

*Relative stay index (RSI)* The actual number of patient days for acute care separations in selected AR–DRGs divided by the expected number of patient days adjusted for casemix. An RSI greater than 1 indicates that an average patient's length of stay is higher than would be expected given the jurisdiction's casemix distribution. An RSI of less than 1 indicates that the number of patient days used was less than would have been expected. See *Appendix 1* for further information.

*Remoteness area* A classification of the remoteness of a location using the Australian Standard Geographical Classification Remoteness Structure, based on the Accessibility /Remoteness Index of Australia (ARIA) which measures the remoteness of a point based on the physical road distance to the nearest urban centre. The categories are:

Major cities
Inner regional
Outer regional
Remote
Very remote
Migratory.

*Removal from waiting list* The reason a patient is removed from an elective surgery waiting list. The reason-for-removal categories are:

1 Admitted as an elective patient for awaited procedure in this hospital or another hospital

2 Admitted as an emergency patient for awaited procedure in this hospital or another hospital

3 Could not be contacted (includes patients who have died while waiting whether or not the cause of death was related to the condition requiring treatment)

4 Treated elsewhere for awaited procedure, but not as a patient of this hospital's waiting list

5 Surgery not required or declined

6 Transferred to another hospital's waiting list

9 Not known.

METeOR identifier: 269959

*Repairs and maintenance expenditure* The costs incurred in maintaining, repairing, replacing and providing additional equipment, maintaining and renovating buildings and minor additional works.

METeOR identifier: 269970

*Salaried medical officers* See *Full-time equivalent staff*.

*Same-day patient* An admitted patient who is admitted and separates on the same date.

*Separation* An episode of care for an admitted patient, 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 either by being discharged, dying, transferring to another hospital or changing type of care.

*Separation rate* The total number of episodes of care for admitted patients divided by the total number of persons in the population under study.

Often presented as a rate per 1,000 or 10,000 members of a population. Rates may be crude or standardised (see *Appendix 1*).

*Separation rate ratio* The separation rate for one population divided by the separation rate of another.

*Separations* The total number of episodes of care for admitted patients, which can be total hospital stays (from admission to discharge, transfer or death), or portions of hospital stays beginning or ending in a change of type of care (for example, from acute to rehabilitation) that cease during a reference period.

METeOR identifier: 270407

*Service related group (SRG)* A classification based on Australian Refined Diagnostic Related Group (AR-DRG) aggregations for categorising admitted patient episodes into groups representing clinical divisions of hospital activity.

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| *Specialised service* | A facility or unit dedicated to the treatment or care of patients with particular conditions or characteristics, such as an intensive care unit.<br><br>METeOR identifier: 269612 |
| *Student nurses* | See *Full-time equivalent staff.* |
| *Superannuation employer contributions* | Contributions paid on behalf of establishment employees either by the establishment or a central administration such as a state health authority.<br><br>METeOR identifier: 270371 |
| *Surgical procedure* | A procedure used to define surgical Australian Refined Diagnosis Related Groups' version 5.1 (DoHA 2004). |
| *Surgical specialty* | The area of clinical expertise held by the doctor who will perform the surgery of interest.<br><br>METeOR identifier: 270146 |
| *Triage category* | Used in the emergency departments of hospitals to indicate the urgency of the patient's need for medical and nursing care. Patients are triaged into one of five categories on the National Triage Scale. The triage category is allocated by an experienced registered nurse or medical practitioner.<br><br>METeOR identifier: 270078 |
| *Type of non-admitted patient occasion of service* | A broad classification of services provided to non-admitted patients, including emergency, dialysis, pathology, radiology and organ imaging, endoscopy, other medical/surgical/diagnostic, mental health, drug and alcohol, dental, pharmacy, allied health, community health, district nursing and other outreach.<br><br>METeOR identifier: 270395, 270502–270514 (Type of non-admitted patient occasion of service) |
| *Visiting medical officer* | A medical practitioner appointed by the hospital to provide medical services for hospital (public) patients on an honorary, sessionally paid or fee-for-service basis.<br><br>METeOR identifier: 270049 |
| *Waiting time at admission* | The time elapsed for a patient on the elective surgery waiting list from the date they were added to the waiting list for the procedure to the date they were admitted to hospital for the procedure.<br><br>METeOR identifier: 269477 |

# References

ABS (Australian Bureau of Statistics) 2008a. Socio-Economic Indexes for Areas (SEIFA)—Technical paper 2006. ABS cat. no. 2039.0.55.001. Canberra: ABS.

ABS 2008b. Private hospitals Australia 2006–07. ABS cat. no. 4390.0. Canberra: ABS.

AIHW (Australian Institute of Health and Welfare) 1997a. Australian hospital statistics, 1993–95: an overview. Health services series no. 9. Cat. no. HSE 2. Canberra: AIHW.

AIHW 1997b. Australian hospital statistics 1995–96. Health services series no. 10. Cat. no. HSE 3. Canberra: AIHW.

AIHW 1998. Australian hospital statistics 1996–97. Health services series no. 11. Cat. no. HSE 5. Canberra: AIHW.

AIHW 1999. Australian hospital statistics, 1997–98. Health services series no. 12. Cat. no. HSE 6. Canberra: AIHW.

AIHW 2000. Australian hospital statistics 1998–99. Health services series no. 15. Cat. no. HSE 11. Canberra: AIHW.

AIHW 2001. Australian hospital statistics, 1999–00. Health services series no. 17. Cat. no. HSE 14. Canberra: AIHW.

AIHW 2002. Australian hospital statistics, 2000–01. Health services series no. 19. Cat. no. HSE 20. Canberra: AIHW.

AIHW 2003. Australian hospital statistics, 2001–02. Health services series no. 20. Cat. no. HSE 25. Canberra: AIHW.

AIHW 2004a. Australian hospital statistics 2002–03. Health services series no. 22. Cat. no. HSE 32. Canberra: AIHW.

AIHW 2004b. National health data dictionary, version 12.0 supplement. Cat. no. HWI 72. Canberra: AIHW.

AIHW 2005a. Australian hospital statistics 2003–04. Health services series no. 23. Cat. no. HSE 37. Canberra: AIHW.

AIHW 2005b. Health expenditure Australia 2003–04. Health and welfare expenditure series no. 25. Cat. no. HWE 32. Canberra: AIHW.

AIHW 2005c. Improving the quality of Indigenous identification in hospital separations data. Health services series no. 25. Cat. no. HSE 101. Canberra: AIHW.

AIHW 2006a. Australian hospital statistics 2004–05. Health services series no. 26. Cat. no. HSE 41. Canberra: AIHW.

AIHW 2006b. Health expenditure Australia 2004–05. Health and welfare expenditure series no. 28. Cat. no. HWE 35. Canberra: AIHW.

AIHW 2007a. Australian hospital statistics 2005–06. Health services series no. 30. Cat. no. HSE 50. Canberra: AIHW.

AIHW 2008a. Australian hospital statistics 2006–07. Health services series no. 31. Cat. no. HSE 55. Canberra: AIHW.

AIHW 2008b. Elective surgery in Australia: new measures of access. Cat. no. HSE 57. Canberra: AIHW.

AIHW 2008c. Health expenditure Australia 2006–07. Health and welfare expenditure series no. 35. Cat. no. HWE 42. Canberra: AIHW.

AIHW 2009 (forthcoming). Indigenous identification in hospital separations data-quality report. Health services series. Canberra: AIHW.

COAG (Council of Australian Governments) 2009. National Healthcare Agreement: Intergovernmental Agreement on Federal Financial Relations. Viewed 15 May 2009, <www.coag.gov.au/intergov_agreements/federal_financial_relations/docs/IGA_FFR_ScheduleF_National_Healthcare_Agreement.pdf>.

Coory M & Cornes S 2005. Interstate comparisons of public hospital outputs using DRGs: are they fair? Australian and New Zealand Journal of Public Health 29:143–8.

DHS (Department of Human Services Victoria) 2002. The Victorian Ambulatory Care Sensitive Conditions Study: opportunities for targeting public health and health services interventions. Melbourne: Rural and Regional Health and Aged Care Services Division.

DoHA (Department of Health and Ageing) 2002. Australian Refined Diagnosis Related Groups, version 5.0. Canberra: DoHA.

DoHA 2004. Australian Refined Diagnosis Related Groups, version 5.1. Canberra: DoHA.

DoHA 2005. The state of our public hospitals, June 2005 report . Canberra: DoHA.

DoHA 2006. The state of our public hospitals, June 2006 report. Canberra: DoHA.

DoHA 2008. National Hospital Cost Data Collection cost report round 11, 2006–07. Canberra: DoHA.

Dobson et al. 1991. Confidence intervals for weighted sums of poison parameters. Statistics in Medicine 10:475–462.

HDSC (Health Data Standards Committee) 2006. National health data dictionary, version 13. AIHW cat. no. HWI 88. Canberra: AIHW.

NCCH (National Centre for Classification in Health) 2006. The international statistical classification of diseases and related health problems, 10th revision, Australian modification (ICD-10-AM), Australian Classification of Health Interventions (ACHI) and Australian Coding Standards (ACS), 5th ed. Sydney: University of Sydney.

NHDC (National Health Data Standards Committee) 2003. National health data dictionary, version 12. AIHW cat. no. HWI 76. Canberra: AIHW.

NHMBWG (National Health Ministers' Benchmarking Working Group) 1998. Second national report on health sector performance indicators. Canberra: Department of Health and Family Services.

NHMBWG 1999. Third national report on health sector performance indicators. Canberra: Department of Health and Family Services.

NHPC (National Health Performance Committee) 2001. National report on health sector performance indicators 2001—a report to the Australian Health Ministers' Conference. Sydney: New South Wales Health Department.

NHPC 2004. National report on health sector performance indicators 2003. Cat. no. HWI 78. Canberra: AIHW.

OECD (Organization for Economic Co-operation and Development) 2006. OECD Health Data 2006: Statistics and Indicators for 30 Countries .Viewed 20 April 2009, <www.oecd.org/health/healthdata>.

OECD 2008. OECD Health Data 2008: Statistics and Indicators for 30 Countries. Viewed 20 April 2009, <www.oecd.org/health/healthdata>.

SCRGSP (Steering Committee for the Review of Government Service Provision) 2009. Report on government services 2009. Canberra: Productivity Commission.

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